

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.02.98  
Test oil : ISO 4113  
  
Combination No. : 0 403 466 137DB  
  
Injection pump  
Pump designation : PES6MW100/120RS1148  
EP type number : 0 413 406 143  
  
Governor  
Governor design. : RSV400...900MW7A319  
: -24  
Governor no. : 0 420 085 216  
  
Cust. part No. : 3921083

## Customer spec. information

Customer : CDC  
Motor : 6 CTA

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 093  
  
Inlet press. bar : 1.5  
  
Test nozzle holde  
assembly : 1 688 901 017  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 014  
  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

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## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.65  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance \*NW : ± 0.75  
  
Start of delivery mark  
  
\*NW after s.o.d. : 9.00  
Tolerance : ± 0.50  
Check  
tolerance \*NW : ± 0.75  
  
Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 750  
  
Rack travel in mm : 13.55  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 179.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

Rated speed rpm : 400

Rack travel in mm : 5.80  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 4.00

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 179.0

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Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

#### CONTROL LEVER

control lever  
position degree : 105.0  
tolerance degree : ± 4.0

RATED SPEED  
rack travel mm : 12.50  
Rated speed rpm : 795  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 830  
Tolerance 1/min : ± 5

rack travel mm : 1.00  
Tolerance mm : ± 0.70  
Rated speed rpm : 875

rack travel mm : 4.00  
Rated speed rpm : 835  
Tolerance 1/min : ± 15

#### LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : ± 4.0

Control lever difference  
Grad : 26.0  
tolerance degree : ± 6.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

Rated speed rpm : 400  
rack travel mm : 5.80  
Tolerance mm : ± 0.10



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#### TORQUE CONTROL

Rated speed rpm : 750  
rack travel mm : 13.55  
Tolerance mm :  $\pm$  0.05

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#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm :  $\pm$  1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  15.0

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#### LOW IDLE

Rated speed rpm : 400  
  
Rack travel in mm : 5.80  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

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End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 24.11.97  
Test oil : ISO 4113

Combination No. : F 002 A0Z 039

Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215

Governor  
Governor design. : RSV500...1100A0C919R  
Governor no. : F 002 A20 229

Cust. part No. : 3932479

Customer-spec. information  
Customer : CDC  
Motor : 6BT  
Power KW : 101.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

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x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Start of delivery blocking

\*NW after s.o.d. : 7.00  
Tolerance : ± 0.50  
Check  
tolerance \*NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.25  
Tolerance mm : ± 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	: 94.0
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Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
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Check tolerance cm <sup>3</sup> /1000S.	: ± 3.0
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Speed	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
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Check tolerance cm <sup>3</sup> /1000S.	: 6.0
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Rated speed rpm	: 500
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Rack travel in mm	: 5.10
Tolerance mm	: ± 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 18.5
Tolerance cm <sup>3</sup> /1000 strokes	: ± 2.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.5
Speed	
Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance cm <sup>3</sup> /1000S.	: 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
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Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
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governor spring pre-tension click setting x	: 1.75

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
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Aneroid pressure hPa	: 900
Del. quantity cm <sup>3</sup> /1000 strokes	: 94.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 3.0
Speed	
Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance cm <sup>3</sup> /1000S.	: 6.0

#### CONTROL LEVER

control lever position degree	: 92.0
tolerance degree	: ± 4.0

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RATED SPEED	
rack travel mm	: 10.20
Rated speed rpm	: 1170
Tolerance 1/min	: ± 5

rack travel mm	: 5.40
Rated speed rpm	: 1235
Tolerance 1/min	: ± 5

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1350

rack travel mm	: 5.40
Rated speed rpm	: 1235
Tolerance 1/min	: ± 15

#### LOW IDLE

control lever position degree	: 75.0
tolerance degree	: ± 4.0

Control lever difference Grad	: 17.0
tolerance degree	: ± 6.0

#### Setting point w/out bumper spring

Rated speed rpm	: 500
rack travel mm	: 4.60
Tolerance mm	: ± 0.10

Rated speed rpm	: 100
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CRT min. : > 19.00

#### Testing:

Rated speed rpm : 500  
rack travel mm : 5.10  
Tolerance mm :  $\pm$  0.10

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#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 11.25  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 12.15  
Tolerance mm :  $\pm$  0.10

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#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 800  
Pressure hPa : 900

Rated speed rpm : 800  
Pressure hPa : -  
rack travel mm : 11.30  
Tolerance mm :  $\pm$  0.20

#### MEASUREMENT

Rated speed rpm : 800  
  
Pressure hPa : 650  
rack travel mm : 11.65  
Tolerance mm :  $\pm$  0.05

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#### FUEL DELIVERY CHARACTERISTICS

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Aneroid pressure  
hPa : 900  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 107.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

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Aneroid pressure  
hPa : -

A06

Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 97.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

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#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  15.0

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#### LOW IDLE

Rated speed rpm : 500  
  
Rack travel in mm : 5.10  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

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End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 09.03.98  
Test oil : ISO 4113

Combination No. : F 002 A02 042

Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215

Governor  
Governor design. : RSV500...1100A0C924R  
Governor no. : F 002 A20 232

Cust. part No. : 3932477

Customer spec. information  
Customer : CDC  
Motor : 6BT  
Power KW : 82.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Test nozzle holde  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

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x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## Start of delivery blocking

\*NW after s.o.d. : 7.00  
Tolerance : ± 0.50  
Check  
tolerance \*NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 9.85  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 78.5

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Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: + 3.0
<hr/>	
Speed	
<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 3.5
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 6.0
<hr/>	

Rated speed rpm	: 500
<hr/>	
Rack travel in mm	: 5.10
Tolerance mm	: + 0.10
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 18.5
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 2.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.5
<hr/>	
Speed	
<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance	
cm <sup>3</sup> /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

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GUIDE SLEEVE POSITION

<hr/>	
control lever	
position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
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governor spring	
pre-tension	
click setting x	: 2.25
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FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
mmHg	: -

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Del. quantity	
cm <sup>3</sup> /1000 strokes	: 78.5
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 3.0
<hr/>	
Speed	
<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance	
cm <sup>3</sup> /1000S.	: 6.0
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CONTROL LEVER

control lever	
position degree	: 95.0
tolerance degree	: + 4.0

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RATED SPEED

rack travel mm	: 8.80
Rated speed rpm	: 1165
Tolerance 1/min	: + 5
Check	
speed 1/min	: + 10

rack travel mm	: 5.40
Rated speed rpm	: 1225
Tolerance 1/min	: + 5
Check	
speed 1/min	: + 10

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1400

rack travel mm	: 5.40
Rated speed rpm	: 1225
Tolerance 1/min	: + 15
Check	
speed 1/min	: + 20

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LOW IDLE

control lever	
position degree	: 80.0
tolerance degree	: + 4.0

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Control lever difference

Grad	: 15.0
tolerance degree	: + 6.0

Setting point w/out bumper spring

Rated speed rpm	: 500
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rack travel mm : 4.60  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. :  $>$  19.00

#### Testing:

Rated speed rpm : 500  
rack travel mm : 5.10  
Tolerance mm :  $\pm$  0.10

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#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 9.85  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 10.90  
Tolerance mm :  $\pm$  0.10

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#### FUEL DELIVERY CHARACTERISTICS

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##### Aneroid pressure

hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 90.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

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#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  15.0

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#### LOW IDLE

Rated speed rpm : 500

Rack travel in mm : 5.10  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

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End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 02.02.98  
Test oil : ISO 4113

Combination No. : F 002 A0Z 043

Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215

Governor  
Governor design. : RSV500...1100AQC925R  
Governor no. : F 002 A20 233

Cust. part No. : 3932478

Customer spec. information  
Customer : CDC  
Motor : 6BT  
Power kW : 90.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

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x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## Start of delivery blocking

\*NW after s.o.d. : 7.00  
Tolerance : ± 0.50  
Check  
tolerance \*NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.85  
Tolerance mm : ± 0.05



Del. quantity cm <sup>3</sup> /1000 strokes	:	86.0
Tolerance cm <sup>3</sup> /1000 strokes	:	± 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	± 3.0
Speed		
Tolerance cm <sup>3</sup> /1000 strokes	:	3.5
Check tolerance cm <sup>3</sup> /1000S.	:	6.0

Rated speed rpm	:	500
Rack travel in mm	:	5.40
Tolerance mm	:	± 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	:	18.5
Tolerance cm <sup>3</sup> /1000 strokes	:	± 2.0
Check tolerance cm <sup>3</sup> /1000S.	:	± 4.5
Speed		
Tolerance cm <sup>3</sup> /1000 strokes	:	3.5
Check tolerance cm <sup>3</sup> /1000S.	:	5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever position degree	:	- 3
Rated speed rpm	:	800
Rack travel in mm	:	0.50
Tolerance mm	:	± 0.20
governor spring pre-tension click setting x	:	5.50

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1100
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Aneroid pressure hPa	:	900
Del. quantity cm <sup>3</sup> /1000 strokes	:	86.0
Tolerance cm <sup>3</sup> /1000 strokes	:	± 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	± 3.0
Speed		
Tolerance cm <sup>3</sup> /1000 strokes	:	3.5
Check tolerance cm <sup>3</sup> /1000S.	:	6.0

#### CONTROL LEVER

control lever position degree	:	94.0
tolerance degree	:	± 4.0

RATED SPEED		
rack travel mm	:	9.80
Rated speed rpm	:	1165
Tolerance 1/min	:	± 5
Check speed 1/min	:	± 10

rack travel mm	:	6.00
Rated speed rpm	:	1220
Tolerance 1/min	:	± 5
Check speed 1/min	:	± 10

rack travel mm	:	0.85
Tolerance mm	:	± 0.55
Rated speed rpm	:	1350

rack travel mm	:	6.00
Rated speed rpm	:	1230
Tolerance 1/min	:	± 15
Check speed 1/min	:	± 20

#### LOW IDLE

control lever position degree	:	30.0
tolerance degree	:	± 4.0

Control lever difference Grad	:	14.0
tolerance degree	:	± 6.0

Setting point w/out bumper spring

Rated speed rpm : 500  
rack travel mm : 4.90  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100  
CRT min. :  $>$  19.00

#### Testing:

Rated speed rpm : 500  
rack travel mm : 5.40  
Tolerance mm :  $\pm$  0.10

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 10.85  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 11.55  
Tolerance mm :  $\pm$  0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 800  
Pressure hPa : -

#### MEASUREMENT

Pressure hPa : 800  
rack travel mm : 11.05  
Tolerance mm :  $\pm$  0.30

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 96.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  15.0

#### LOW IDLE

Rated speed rpm : 500  
Rack travel in mm : 5.40  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.02.98  
Test oil : ISO 4113

Combination No. : F 002 A02 057

Injection pump  
Pump designation : PES4A95D320/3RS2927  
EP type number : F 002 A10 017

Governor  
Governor design. : RSV475...1250A0C936R  
Governor no. : F 002 A20 241

Cust. part No. : 3930145

Customer spec. information  
Customer : CDC  
Motor : 4BNA3.9  
Power kW : 59.7

## TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

A13

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery blocking

\*NW after s.o.d. : 8.50  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.20  
Tolerance mm : ± 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	: 92.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 3.0
Speed	
Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance cm <sup>3</sup> /1000S.	: 6.0

Rated speed rpm	: 475
Rack travel in mm	: 5.00
Tolerance mm	: ± 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 13.5
Tolerance cm <sup>3</sup> /1000 strokes	: ± 2.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.5
Speed	
Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance cm <sup>3</sup> /1000S.	: 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
governor spring pre-tension click setting x	: 3.50

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
-----------------	--------

Aneroid pressure hPa	: -
Del. quantity cm <sup>3</sup> /1000 strokes	: 92.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 3.0
Speed	
Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance cm <sup>3</sup> /1000S.	: 6.0

#### CONTROL LEVER

control lever position degree	: 91.0
tolerance degree	: ± 4.0

RATED SPEED	
rack travel mm	: 9.20
Rated speed rpm	: 1340
Tolerance 1/min	: ± 5

rack travel mm	: 4.00
Rated speed rpm	: 1400
Tolerance 1/min	: ± 5

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1475

rack travel mm	: 4.00
Rated speed rpm	: 1400
Tolerance 1/min	: ± 15

#### LOW IDLE

control lever position degree	: 70.0
tolerance degree	: ± 4.0

Control lever difference Grad	: 21.0
tolerance degree	: ± 6.0

#### Setting point w/out bumper spring

Rated speed rpm	: 475
rack travel mm	: 4.50
Tolerance mm	: ± 0.10

Rated speed rpm	: 100
-----------------	-------

CRT mm min. : > 19.00

Testing:

Rated speed rpm : 475  
rack travel mm : 5.00  
Tolerance mm :  $\pm$  0.10

---

TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 10.20  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 600

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  15.0

---

LOW IDLE

Rated speed rpm : 475  
Rack travel in mm : 5.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 04.03.98  
Test oil : ISO 4113

Combination No. : F 002 A0Z 061

Injection pump  
Pump designation : PES4A95D320/3RS2927  
EP type number : F 002 A10 017

Governor  
Governor design. : RSV475...1100A2C941R  
Governor no. : F 002 A20 242

Cust. part No. : 3930143

---

Customer-spec. information  
Customer : CDC  
Motor : 4BNA3.9  
Power kW : 54.0

---

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Test nozzle holde  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

A16

x inside diameter : 2.0  
x length mm : 600

---

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery blocking

\*NW after s.o.d. : 9.50  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

---

## BASIC SETTING

Rated speed rpm : 1100

---

Rack travel in mm : 10.55  
Tolerance mm : ± 0.05

---

Rated speed rpm : 515  
 Rack travel in mm : 5.40  
 Tolerance mm : + 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 13.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
 position degree : - 3  
 Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 3.00

---

CONTROL LEVER

control lever  
 position degree : 100.0  
 tolerance degree : + 4.0  
 RATED SPEED  
 rack travel mm : 9.50  
 Rated speed rpm : 1160  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1225  
 Tolerance 1/min : + 5  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1325

rack travel mm : 4.00  
 Rated speed rpm : 1235  
 Tolerance 1/min : + 15

---

LOW IDLE

control lever  
 position degree : 81.0  
 tolerance degree : + 4.0

Control lever difference  
 Grad : 19.0  
 tolerance degree : + 6.0

Setting point w/out bumper spring

Rated speed rpm : 515  
 rack travel mm : 4.90  
 Tolerance mm : + 0.20

Rated speed rpm : 100  
 CRT mm min. : > 19.00

Testing:

Rated speed rpm : 515  
 rack travel mm : 5.40  
 Tolerance mm : + 0.20

---

TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 10.55  
 Tolerance mm : + 0.05

Rated speed rpm : 600  
 rack travel mm : 10.55  
 Tolerance mm : + 0.20

---

FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 600  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 82.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 15.0

---

#### LOW IDLE

Rated speed rpm : 515  
Rack travel in mm : 5.40  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.03.98  
Test oil : ISO 4113  
Combination No. : 0 401 846 370  
Injection pump  
Pump designation : PE6P110A320RS157  
EP type number : 0 411 816 108  
Governor  
Governor design. : RQV250...550/1150PA1  
: 40R  
Governor no. : 0 421 813 184  
Cust. part No. : 516208005011

## Customer spec. information

Customer : STEYR  
Motor : 7 FA  
Power KW : 235.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 047  
Inlet press. bar : 1.5  
Overflow quantity  
min. l/h : 120  
Tolerance l/h : ± 20.0  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.05  
Tolerance mm : ± 0.05

Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery mark

Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.25  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 250

Rack travel in mm : 6.30

Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.5

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1150

Rack travel in mm : 16.50  
Tolerance mm : ± 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0

A20

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
position degree : 122.0  
tolerance degree : ± 4.0

##### RATED SPEED

rack travel mm : 11.20  
Rated speed rpm : 1195  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1275  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1450

##### LOW IDLE

control lever  
position degree : 66.0  
tolerance degree : ± 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 100  
CRT mm min. : > 7.50

##### Testing:

Rated speed rpm : 250  
rack travel mm : 6.30  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 440  
Tolerance 1/min : ± 30

##### TORQUE CONTROL

Rated speed rpm : 1150

rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.60  
Tolerance mm :  $\pm$  0.15

MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 300  
rack travel mm : 11.00  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 380  
rack travel mm : 11.75  
Tolerance mm :  $\pm$  0.05

---

FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 1150  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 16.00  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 215.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

LOW IDLE

Rated speed rpm : 250  
Rack travel in mm : 6.30  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.03.98  
Test oil : ISO 4113  
Combination No. : 0 401 846 974  
Injection pump  
Pump designation : PE6P110A720LS3283  
EP type number : 0 411 816 786  
Governor  
Governor design. : RQ250/1000PA1067  
Governor no. : 0 421 801 684

Cust. part No. :

Customer-spec. information  
Customer : IVECO-PEGASO  
Motor : 95 TEGZ  
Power kW : 165.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 250  
Rack travel in mm : 4.60  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 550

Rack travel in mm : 16.00  
Tolerance mm :  $\pm$  0.60

RATED SPEED  
rack travel mm : 9.80  
Rated speed rpm : 1048  
Tolerance 1/min :  $\pm$  8

rack travel mm : 4.00  
Rated speed rpm : 1115  
Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1250

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 100  
CRT mm min. :  $>$  6.10

Testing:

Rated speed rpm : 250  
rack travel mm : 4.60  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 340  
Tolerance 1/min :  $\pm$  20

TORQUE CONTROL

Rated speed rpm : 600  
rack travel mm : 11.35  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 980  
rack travel mm : 11.30  
Tolerance mm :  $\pm$  0.10

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 10.85  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 8.10  
Tolerance mm :  $\pm$  0.10

MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 310  
rack travel mm : 8.90  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 520  
rack travel mm : 10.15  
Tolerance mm :  $\pm$  0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 980  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 178.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 118.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

---

STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 250  
  
Rack travel in mm : 4.60  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.03.98  
Test oil : ISO 4113

Combination No. : 0 401 876 796

Injection pump  
Pump designation : PE6P120A320LS3815  
: -13  
EP type number : 0 411 826 782

Governor  
Governor design. : RSV675...1050POA820  
: -12  
Governor no. : 0 421 833 401

Cust. part No. : 0240745302

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM441A  
Power kW : 162.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5

A25

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.65  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 6- 3- 5- 2- 4-  
: 1

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery mark

Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.75

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 1080

Rack travel in mm : 10.00  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 146.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Speed

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Rated speed rpm : 675

Rack travel in mm : 3.40  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 3.00

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1080  
Aneroid pressure

hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 146.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

##### CONTROL LEVER

control lever  
position degree : 93.0  
tolerance degree : ± 4.0

---

##### LOW IDLE

control lever  
position degree : 77.0  
tolerance degree : ± 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 100

CR min. : > 19.50

Setting:

Rated speed rpm : 675  
rack travel mm : 3.40  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 705  
Tolerance 1/min : ± 30

##### SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

---

##### TORQUE CONTROL



Rated speed rpm : 1080  
rack travel mm : 10.00  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 11.30  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 925  
rack travel mm : 10.60  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500  
rack travel mm : 11.30  
Tolerance mm :  $\pm$  0.15

---

#### FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 177.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

rack travel mm : 10.60  
Tolerance mm :  $\pm$  0.10

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

#### LOW IDLE

Rated speed rpm : 675

Rack travel in mm : 3.40  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## Note remarks

Edition : 11.03.98  
Test oil : ISO 4113

Injection pump  
Pump designation : PES6P120A720/3LS3255  
: -2  
EP type number : 0 412 026 768

Cust. part No. : 51.11103-7336

Customer : MAN  
Motor : D2866LU08  
Power KW : 230.0

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar :  $\pm$  0.1

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar :  $\pm$  1.5

Test Lines : 1 680 750 075

```
x inside diameter : 3.0
x length mm      : 1000
```

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

Test pressure bar : 26.0  
Tolerance bar : + 1.0

```
Prestroke name      :      3.75
Tolerance name      :  +  0.05
Check
tolerance name      :  +  0.10
```

Rack travel in mm : 15.00  
Tolerance mm : + 0.50

Firing order : 6- 2- 4- 1- 5-  
: 3

```

Phasing      : 0-60-120-180-240
              : -300
Tolerance    : + 0.30
Check
Tolerance *N : + 0.75

```

Start of delivery mark

Barrel no. : 6

Rated speed rpm : 700

Rack travel in mm : 13.90  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 205.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.30  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spreed  
Tolerance

cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1050  
guide sleeve

travel mm : 7.31  
Tolerance mm : + 0.10

Rated speed rpm : 300  
guide sleeve

travel mm : 2.15  
Tolerance mm : + 0.10

Rated speed rpm : 1000  
guide sleeve

travel mm : 7.00  
Tolerance mm : + 0.10

Rated speed rpm : 383  
guide sleeve

travel mm : 5.04  
Tolerance mm : + 0.10

Rated speed rpm : 480  
guide sleeve

travel mm : 7.00  
Tolerance mm : + 0.10

Rated speed rpm : 1220  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever  
position degree : 109  
Rated speed rpm : 550

Rack travel in mm : 15.50  
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 205.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spreed  
Tolerance

cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 285.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.90  
Rated speed rpm : 1053  
Tolerance 1/min : + 8

rack travel mm : 4.00  
Rated speed rpm : 1150  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1260

LOW IDLE

control lever  
position degree : 255.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 200  
CRT mm min. :  $>$  9.80

Testing:

Rated speed rpm : 300  
rack travel mm : 6.30  
Tolerance mm :  $\pm$  0.10  
  
rack travel mm : 2.00  
Rated speed rpm : 380  
Tolerance 1/min :  $\pm$  20

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.10

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 11.35  
Tolerance mm :  $\pm$  0.15

MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 450  
rack travel mm : 13.30  
Tolerance mm :  $\pm$  0.15  
  
Pressure hPa : 110  
rack travel mm : 11.65  
Tolerance mm :  $\pm$  0.05

B02

Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  220

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  280

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 212.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

LOW IDLE

Rated speed rpm : 300  
  
Rack travel in mm : 6.30  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.03.98  
Test oil : ISO 4113  
  
Combination No. : 0 402 036 758  
  
Injection pump  
Pump designation : PES6P120A720/3LS3255  
: -4  
EP type number : 0 412 026 775  
  
Governor  
Governor design. : RQ300/1000PA813-23  
Governor no. : 0 421 801 710  
  
Cust. part No. : 51.11103-7387

Customer-spec. information  
Customer : MAN  
Motor : D2666LU08  
Power KW : 230.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 417 413 025  
  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
  
Test nozzle holder  
assembly : 1 688 901 019  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 075

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.75  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 15.00  
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-  
: 3

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.90  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 205.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.30  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1050  
guide sleeve  
travel mm : 7.31  
Tolerance mm : + 0.10

Rated speed rpm : 300  
guide sleeve  
travel mm : 2.15  
Tolerance mm : + 0.10

Rated speed rpm : 1000  
guide sleeve  
travel mm : 7.00  
Tolerance mm : + 0.10

Rated speed rpm : 383  
guide sleeve  
travel mm : 5.04  
Tolerance mm : + 0.10

Rated speed rpm : 480  
guide sleeve  
travel mm : 7.00  
Tolerance mm : + 0.10

Rated speed rpm : 1220  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

control lever  
position degree : 109  
Rated speed rpm : 550

Rack travel in mm : 15.50  
Tolerance mm : + 0.80

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 1200  
Del. quantity

cm<sup>3</sup>/1000 strokes : 205.0  
Tolerance

cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance

cm<sup>3</sup>/1000S. : + 4.0  
Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 285.0  
tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 12.90  
Rated speed rpm : 1053  
Tolerance 1/min : + 8

rack travel mm : 4.00  
Rated speed rpm : 1150  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1260

##### LOW IDLE

control lever  
position degree : 255.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 200  
CRT mm min. :  $>$  9.80

Testing:

Rated speed rpm : 300  
rack travel mm : 6.30  
Tolerance mm :  $\pm$  0.10  
  
rack travel mm : 2.00  
Rated speed rpm : 380  
Tolerance 1/min :  $\pm$  20

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.10

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 11.35  
Tolerance mm :  $\pm$  0.15

MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 450  
rack travel mm : 13.30  
Tolerance mm :  $\pm$  0.15

Pressure hPa : 110  
rack travel mm : 11.65  
Tolerance mm :  $\pm$  0.05

Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  220

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  280

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 212.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/100GS. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/100GS. :  $\pm$  4.0

STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/100GS. :  $\pm$  14.0

LOW IDLE

Rated speed rpm : 300  
  
Rack travel in mm : 6.30  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0



Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 03.11.97  
Test oil : ISO 4113  
Combination No. : 0 402 046 234  
Injection pump  
Pump designation : PES6P110A820LS442  
EP type number : 0 412 016 060  
Governor  
Governor design. : RQ300/1100PA327-5  
Governor no. : 0 421 801 163

Cust. part No. :

Customer spec. information  
Customer : MB-NFZ  
Motor : 407 STEHEND  
Power kW : 162.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 20.0

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 6- 2- 4- 1- 5-  
: 3

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery mark

Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.75

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.05  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 117.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 6.10  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.5

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

#### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1153  
guide sleeve  
travel mm : 7.63  
Tolerance mm : + 0.15

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.87  
Tolerance mm : + 0.20

Rated speed rpm : 1100  
guide sleeve  
travel mm : 7.00  
Tolerance mm : + 0.10

Rated speed rpm : 373  
guide sleeve  
travel mm : 4.84  
Tolerance mm : + 0.10

Rated speed rpm : 460  
guide sleeve  
travel mm : 7.00  
Tolerance mm : + 0.10

Rated speed rpm : 1250  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 600

Rack travel in mm : 13.50  
Tolerance mm : + 0.50

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 117.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

RATED SPEED  
rack travel mm : 10.00  
Rated speed rpm : 1145  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1190  
Tolerance 1/min : + 15

rack travel mm : 1.00  
Tolerance mm : + 1.00  
Rated speed rpm : 1300

---

#### LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 7.50

#### Testing:

Rated speed rpm : 300  
rack travel mm : 6.10  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 370  
Tolerance 1/min :  $\pm$  20

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 11.05  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 600  
rack travel mm : 11.05  
Tolerance mm :  $\pm$  0.10

---

#### FUEL DELIVERY CHARACTERISTICS

---

##### Aneroid pressure

hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 95.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

#### LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 6.10  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance

cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.5

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.03.98  
Test oil : ISO 4113

Combination No. : 0 402 046 882

Injection pump  
Pump designation : PES6P110A320RS3329  
EP type number : 0 412 016 743

Governor  
Governor design. : RQV325...1250PA1385  
Governor no. : 0 421 814 209

Cust. part No. : 1351707

Customer-spec. information  
Customer : DAF  
Motor : NS177M-CBP  
Power kW : 177.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 165  
Tolerance l/h : ± 5.0

Test nozzle holder  
assembly : 0 432 191 593

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 12.80  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2  
: - 4

Phasing : 0- 60- 120- 180  
: - 240- 300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.70

## Start of delivery mark

Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.70

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.80  
Tolerance mm : ± 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	: 154.5
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

Rated speed rpm	: 325
Rack travel in mm	: 4.40
Tolerance mm	: ± 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 26.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 1303
guide sleeve travel mm	: 10.33
Tolerance mm	: ± 0.15
Rated speed rpm	: 325
guide sleeve travel mm	: 1.25
Tolerance mm	: ± 0.20
Rated speed rpm	: 865
guide sleeve travel mm	: 5.43
Tolerance mm	: ± 0.25
Rated speed rpm	: 520

guide sleeve travel mm	: 3.02
Tolerance mm	: ± 0.25

Rated speed rpm	: 1510
guide sleeve travel mm	: 13.50
Tolerance mm	: ± 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 1349
Rack travel in mm	: 11.80
Tolerance mm	: ± 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Aneroid pressure hPa	: 1500
Del. quantity cm <sup>3</sup> /1000 strokes	: 154.5
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

##### CONTROL LEVER

control lever position degree	: 122.0
tolerance degree	: ± 4.0

RATED SPEED	
rack travel mm	: 11.80
Rated speed rpm	: 1290
Tolerance 1/min	: ± 5
Check speed 1/min	: ± 10

rack travel mm	: 4.00
Rated speed rpm	: 1375
Tolerance 1/min	: ± 15
Check speed 1/min	: ± 20

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1500

---

#### LOW IDLE

control lever  
position degree : 76.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 225  
CRT mm min. :  $>$  6.00

#### Testing:

Rated speed rpm : 325  
rack travel mm : 4.40  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 375  
Tolerance 1/min :  $\pm$  50

---

#### TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.80  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 600  
Pressure hPa : 1500  
rack travel mm : 12.80  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 600  
Pressure hPa : -  
rack travel mm : 7.10  
Tolerance mm :  $\pm$  0.10

#### MEASUREMENT

Rated speed rpm : 600  
Pressure hPa : 210  
rack travel mm : 8.60  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 410  
rack travel mm : 11.40  
Tolerance mm :  $\pm$  0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 93.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  4.0

---

#### LOW IDLE

Rated speed rpm : 325  
Rack travel in mm : 4.40  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.03.98  
Test oil : ISO 4113  
Combination No. : 0 402 076 058  
Injection pump  
Pump designation : PES6P120A700RS532-1  
EP type number : 0 412 026 061  
Governor  
Governor design. : RSV300...1200POA552  
Governor no. : 0 421 833 368

Cust. part No. :

Customer spec. information  
Customer : IVECO-AIFO  
Motor : 8361 SRM 37

## TEST BENCH REQUIREMENTS

Inlet line : 2.4  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 1 688 901 019  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 2.5

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x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
Start of delivery mark  
Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1200  
Rack travel in mm : 13.55  
Tolerance mm : ± 0.05  
Rated speed rpm : 300  
Rack travel in mm : 4.80  
Tolerance mm : ± 0.10



Del. quantity  
 cm<sup>3</sup>/1000 strokes : 20.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever  
 position degree : - 3  
 Rated speed rpm : 800  
  
 Rack travel in mm : 0.50  
 Tolerance mm : ± 0.20  
  
 governor spring  
 pre-tension  
 click setting x : 4.00

#### CONTROL LEVER

control lever  
 position degree : 102.0  
 tolerance degree : ± 4.0  
  
 RATED SPEED  
 rack travel mm : 12.50  
 Rated speed rpm : 1245  
 Tolerance 1/min : ± 5  
  
 rack travel mm : 4.00  
 Rated speed rpm : 1310  
 Tolerance 1/min : ± 15  
  
 rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1450

#### LOW IDLE

control lever  
 position degree : 70.0  
 tolerance degree : ± 4.0

#### Setting point w/out bumper spring

Rated speed rpm : 300  
 rack travel mm : 4.30  
 Tolerance mm : ± 0.10

#### Testing:

Rated speed rpm : 300  
 rack travel mm : 4.80  
 Tolerance mm : ± 0.10  
  
 rack travel mm : 2.00  
 Rated speed rpm : 375  
 Tolerance 1/min : ± 30

#### TORQUE CONTROL

Rated speed rpm : 1200  
 rack travel mm : 13.55  
 Tolerance mm : ± 0.05

Rated speed rpm : 550  
 rack travel mm : 13.60  
 Tolerance mm : ± 0.10

Rated speed rpm : 350  
 rack travel mm : 15.00  
 Tolerance mm : ± 0.30

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
 Pressure hPa : 900  
 rack travel mm : 13.60  
 Tolerance mm : ± 0.10

Rated speed rpm : 500  
 Pressure hPa : -  
 rack travel mm : 12.10  
 Tolerance mm : ± 0.10

#### MEASUREMENT

Rated speed rpm : 500  
  
 Pressure hPa : 400  
 rack travel mm : 12.95  
 Tolerance mm : ± 0.05

---

## FUEL DELIVERY CHARACTERISTICS

---

rack travel mm : 15.00  
Tolerance mm :  $\pm$  0.30

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500

---

## STARTING FUEL DELIVERY

ESS test: With 12 V solenoid activated,  
rack must reach start position in max.  
control lever setting.

Rated speed rpm : 100

---

## LOW IDLE

Rated speed rpm : 300  
  
Rack travel in mm : 4.80  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.03.98  
Test oil : ISO 4113

Combination No. : 0 402 076 060

Injection pump  
Pump designation : PES6P110A720RS534  
EP type number : 0 412 016 077

Governor  
Governor design. : RSV450...1050P1A572  
Governor no. : 0 421 833 428

Cust. part No. :

Customer-spec. information  
Customer : IVECO-FRANCE  
Motor : 8365.25.533

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 155  
Tolerance l/h : ± 20.0

Test nozzle holde  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.05  
Tolerance mm : ± 0.05

Rated speed rpm : 450

Rack travel in mm : 5.00  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

governor spring  
pre-tension  
click setting x : 4.00

##### CONTROL LEVER

control lever  
position degree : 108.0  
tolerance degree : + 4.0

RATED SPEED  
rack travel mm : 9.00  
Rated speed rpm : 1095  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1130  
Tolerance 1/min : + 15

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1300

rack travel mm : 4.00  
Rated speed rpm : 1145

Tolerance 1/min : + 15

##### LOW IDLE

control lever  
position degree : 80.0  
tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 450  
rack travel mm : 4.50  
Tolerance mm : + 0.10

##### Testing:

Rated speed rpm : 450  
rack travel mm : 5.00  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 560  
Tolerance 1/min : + 30

##### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 10.05  
Tolerance mm : + 0.05

Rated speed rpm : 550  
rack travel mm : 10.10  
Tolerance mm : + 0.10

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 10.10  
Tolerance mm : + 0.10

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 9.30  
Tolerance mm : + 0.10

##### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 450

rack travel mm : 9.91  
Tolerance mm :  $\pm$  0.05

---

#### FUEL DELIVERY CHARACTERISTICS

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Aneroid pressure  
hPa : 900  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 121.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0

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Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 104.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated,  
rack must reach start position in max.  
control lever setting.

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

#### LOW IDLE

Rated speed rpm : 450  
  
Rack travel in mm : 5.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.02.98  
Test oil : ISO 4113  
Combination No. : 0 402 646 669  
Injection pump  
Pump designation : PE6P130A72ORS7197  
EP type number : 0 412 636 815  
Governor  
Governor design. : RQV425...975PA1292  
Governor no. : 0 421 814 184

Cust. part No. :

Customer-spec. information  
Customer : IVECO-FRANCE  
Motor : 8215.42.985  
Power kW : 260.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 2 417 413 076  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
Test nozzle holder  
assembly : 1 688 901 105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 075  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
Start of delivery mark  
Check  
tolerance °NW : ± 0.40  
Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 975  
Rack travel in mm : 13.45  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 257.0

Tolerance  
cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000S. : + 4.0

Spread

Tolerance  
cm3/1000 strokes : 5.0

Check tolerance  
cm3/1000S. : 8.0

Rated speed rpm : 425

Rack travel in mm : 5.00  
Tolerance mm : + 0.10

Del. quantity  
cm3/1000 strokes : 22.0

Tolerance  
cm3/1000 strokes : + 3.0

Check tolerance  
cm3/1000S. : + 7.0

Spread

Tolerance  
cm3/1000 strokes : 8.0

Check tolerance  
cm3/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

#### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1034  
guide sleeve  
travel mm : 7.23  
Tolerance mm : + 0.15

Rated speed rpm : 425  
guide sleeve  
travel mm : 2.40  
Tolerance mm : + 0.20

Rated speed rpm : 860  
guide sleeve  
travel mm : 5.34  
Tolerance mm : + 0.25

Rated speed rpm : 580  
guide sleeve  
travel mm : 3.68  
Tolerance mm : + 0.25

Rated speed rpm : 1139

guide sleeve  
travel mm : 10.00  
Tolerance mm : + 0.25

Rated speed rpm : 1220  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1125

Rack travel in mm : 10.00  
Tolerance mm : + 2.70

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 975  
Aneroid pressure  
hPa : 900

Del. quantity  
cm3/1000 strokes : 257.0

Tolerance  
cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000S. : + 4.0

Spread

Tolerance  
cm3/1000 strokes : 5.0

Check tolerance  
cm3/1000S. : 8.0

#### CONTROL LEVER

control lever  
position degree : 119.0  
tolerance degree : + 4.0

RATED SPEED  
rack travel mm : 12.40  
Rated speed rpm : 1020  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1080  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1350

---

## LOW IDLE

control lever  
position degree : 94.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 325

CRT mm min. :  $>$  6.50

Testing:

Rated speed rpm : 425  
rack travel mm : 5.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 470

---

## TORQUE CONTROL

Rated speed rpm : 975  
rack travel mm : 13.45  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 550  
rack travel mm : 13.50  
Tolerance mm :  $\pm$  0.10

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 13.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.90  
Tolerance mm :  $\pm$  0.20

### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 470  
rack travel mm : 11.50  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 550  
rack travel mm : 12.75

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Tolerance mm :  $\pm$  0.05

---

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 267.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 181.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

## STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated,  
rack must reach start position in max.  
control lever setting.

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 270.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

---

## LOW IDLE

Rated speed rpm : 425  
Rack travel in mm : 5.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0



Check tolerance  
cm<sup>3</sup>/1000s. : + 7.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.03.98  
Test oil : ISO 4113

Combination No. : 0 402 646 763

Injection pump  
Pump designation : PE6P120A320LS7834  
: -10  
EP type number : 0 412 626 853

Governer  
Governer design. : RQV300...1050PA1065  
: -2  
Governer no. : 0 421 814 135

Cust. part No. : 0260743702

Customer spec. information  
Customer : MB-NFZ  
Motor : 04401 LA  
Power KW : 230.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Overflow quantity  
min. L/h : 220  
Tolerance L/h : ± 20.0

Test nozzle holde  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery mark

Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.75

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.20  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000s. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

#### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1108  
guide sleeve  
travel mm : 9.82  
Tolerance mm : + 0.25

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.13  
Tolerance mm : + 0.25

Rated speed rpm : 370  
guide sleeve  
travel mm : 2.00  
Tolerance mm : + 0.25

Rated speed rpm : 420  
guide sleeve  
travel mm : 2.49  
Tolerance mm : + 0.25

Rated speed rpm : 750  
guide sleeve  
travel mm : 4.87  
Tolerance mm : + 0.25

Rated speed rpm : 1310  
guide sleeve  
travel mm : 13.50  
Tolerance mm : + 0.50

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1200

Rack travel in mm : 13.80  
Tolerance mm : + 1.30

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
Aneroid pressure  
hPa : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

#### CONTROL LEVER

control lever  
position degree : 104.0  
tolerance degree : + 4.0

RATED SPEED  
rack travel mm : 13.80  
Rated speed rpm : 1095  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1195

Tolerance 1/min : + 15  
 rack travel mm : 0.75  
 Tolerance mm : + 0.75  
 Rated speed rpm : 1300

#### LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200  
 CRT mm min. : > 8.10

#### Testing:

Rated speed rpm : 300  
 rack travel mm : 5.20  
 Tolerance mm : + 0.10

Rated speed rpm : 350

#### TORQUE CONTROL

Rated speed rpm : 550  
 rack travel mm : 14.80  
 Tolerance mm : + 0.05

Rated speed rpm : 1050  
 rack travel mm : 14.80  
 Tolerance mm : + 0.10

Rated speed rpm : 700  
 rack travel mm : 14.80  
 Tolerance mm : + 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
 Pressure hPa : 1000  
 rack travel mm : 14.80  
 Tolerance mm : + 0.05

Rated speed rpm : 400  
 Pressure hPa : -  
 rack travel mm : 10.50  
 Tolerance mm : + 0.15

#### MEASUREMENT

Rated speed rpm : 400  
 Pressure hPa : 400  
 rack travel mm : 12.90  
 Tolerance mm : + 0.20

Pressure hPa : 600  
 rack travel mm : 14.15  
 Tolerance mm : + 0.20

#### Start interlock

Rated speed rpm : > 100  
 Rated speed rpm : < 220

Check  
 speed 1/min : > 80  
 Check  
 speed 1/min : < 240

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 1000  
 Rated speed rpm : 1050  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 227.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

rack travel mm : 14.80  
 Tolerance mm : + 0.05

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 129.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 5.20  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.10.97

Test oil : ISO 4113

Combination No. : 0 402 648 703

## Injection pump

Pump designation : PE8P120A320LS7880

EP type number : 0 412 628 889

## Governor

Governor design. : RGV350...1050FA1352

Governor no. : 0 421 814 197

Cust. part No. : 0270747202

## Customer-spec. information

Customer : MB-NFZ

Motor : OM442 LA euromot

Power kW : 405.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

## Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0

Tolerance bar : ± 0.1

## Overflow quantity

min. L/h : 200

Tolerance L/h : ± 10.0

## Test nozzle holde assembly

: 2 568 890 1105

## Opening pressure

bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

## REMARKS

## (A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 4.75

Tolerance mm : ± 0.05

## Check

tolerance mm : ± 0.10

Rack travel in mm : 20.50

Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : ± 0.50

## Check

tolerance °NW : ± 0.75

## Start of delivery mark

Tolerance : ± 0.10

## Check

tolerance °NW : ± 0.75

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 15.00  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 282.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.70  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1110  
guide sleeve  
travel mm : 8.10  
Tolerance mm : ± 0.15

Rated speed rpm : 350  
guide sleeve  
travel mm : 1.48  
Tolerance mm : ± 0.20

Rated speed rpm : 900  
guide sleeve  
travel mm : 5.69  
Tolerance mm : ± 0.25

Rated speed rpm : 580  
guide sleeve  
travel mm : 3.62  
Tolerance mm : ± 0.25

Rated speed rpm : 1204  
guide sleeve  
travel mm : 10.00  
Tolerance mm : ± 0.25

Rated speed rpm : 1300  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1154

Rack travel in mm : 14.00  
Tolerance mm : ± 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : 1300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 282.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 119.0  
tolerance degree : ± 4.0

RATED SPEED  
rack travel mm : 14.00  
Rated speed rpm : 1098  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1190

Tolerance 1/min : + 15  
rack travel mm : 0.75  
Tolerance mm : + 0.75  
Rated speed rpm : 1250

---

#### LOW IDLE

control lever  
position degree : 67.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 250  
CRT mm min. : > 7.50

#### Testing:

Rated speed rpm : 350  
rack travel mm : 5.70  
Tolerance mm : + 0.10  
  
Rated speed rpm : 400

---

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 15.00  
Tolerance mm : + 0.05

Rated speed rpm : 600  
rack travel mm : 15.00  
Tolerance mm : + 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : -

#### MEASUREMENT

Pressure hPa : 500  
rack travel mm : 1.40  
Tolerance mm : + 0.05

Pressure hPa : 1000  
rack travel mm : 5.80  
Tolerance mm : + 0.20

---

#### Start interlock

Rated speed rpm : > 210  
Rated speed rpm : < 270

Check  
speed 1/min : > 190  
Check  
speed 1/min : < 290

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1300  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 298.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 132.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

#### REDUCED QUANTITY

Aneroid pressure  
hPa : 1300  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 225.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 5.0



---

# STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 280.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

# LOW IDLE

Rated speed rpm : 350  
  
Rack travel in mm : 5.70  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.12.97

Test oil : ISO 4113

Combination No. : 0 402 666 805

## Injection pump

Pump designation : PE6P120A320/3LS7914

EP type number : 0 412 626 968

## Governor

Governor design. : RSV600...1050POA642

Governor no. : 0 421 833 556

Cust. part No. : 0280743702

## Customer-spec. information

Customer : MB-NFZ

Motor : OM 441 LA

Power kW : 300.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

## Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0

Tolerance bar : ± 0.1

## Overflow quantity

min. l/h : 220

Tolerance l/h : ± 20.0

## Test nozzle holde

assembly : 1 688 901 105

## Opening pressure

bar : 208.5

Tolerance bar : ± 1.5

C04

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

## REMARKS

## (A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 4.75

Tolerance mm : ± 0.05

## Check

tolerance mm : ± 0.10

Rack travel in mm : 19.00

Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-

: 1

Phasing : 0-45-120-165-240

: -285

Tolerance : ± 0.50

## Check

tolerance °NW : ± 0.75

## Start of delivery mark

Tolerance : ± 0.10

## Check

tolerance °NW : ± 0.75

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 13.70

Tolerance mm : ± 0.05

Del. quantity	
cm <sup>3</sup> /1000 strokes	: 251.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
Speed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

Rated speed rpm	: 600
Rack travel in mm	: 2.00
Tolerance mm	: ± 0.10
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 17.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 6.0
Speed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever	
position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
governor spring	
pre-tension	
click setting x	: 1.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1075
-----------------	--------

C05

Aneroid pressure	
hPa	: -
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 251.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
Speed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

##### CONTROL LEVER

control lever	
position degree	: 88.0
tolerance degree	: ± 4.0

RATED SPEED	
rack travel mm	: 12.70
Rated speed rpm	: 1115
Tolerance 1/min	: ± 5
Check	
speed 1/min	: ± 10

##### LOW IDLE

control lever	
position degree	: 71.0
tolerance degree	: ± 4.0

##### Testing:

Rated speed rpm	: 600
rack travel mm	: 2.00
Tolerance mm	: ± 0.10

rack travel mm	: 2.00
Rated speed rpm	: 630
Tolerance 1/min	: ± 30

##### SET IDLE AUXILIARY SPRING

rack travel mm	: 2.00
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##### TORQUE CONTROL

Rated speed rpm	: 1075
rack travel mm	: 13.70
Tolerance mm	: ± 0.05

Rated speed rpm	: 800
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rack travel mm : 14.75  
Tolerance mm :  $\pm$  0.10  
  
Rated speed rpm : 1000  
rack travel mm : 14.35  
Tolerance mm :  $\pm$  0.15

End of test specification sheet

---

#### FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 291.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  6.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 290.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  19.0

---

#### LOW IDLE

Rated speed rpm : 600  
  
Rack travel in mm : 2.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.02.98  
Test oil : ISO 4113

Combination No. : 0 402 746 633

Injection pump  
Pump designation : PES6P120A720RS7366  
EP type number : 0 412 726 933

Governor  
Governor design. : RQ300/1050PA1344  
Governor no. : 0 421 801 821

Cust. part No. :

## Customer-spec. information

Customer : IVECO-FRANCE  
Motor : 8460.41R.7143  
Power kW : 214.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 160  
Tolerance l/h : ± 20.0

Test nozzle holde  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Check  
tolerance °NW : ± 0.40

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.55

Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 234.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.30  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever  
position degree : 109  
Rated speed rpm : 500

Rack travel in mm : 20.00  
Tolerance mm : + 0.80

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : 1200

C08

Del. quantity  
cm<sup>3</sup>/1000 strokes : 234.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### RATED SPEED

rack travel mm : 10.50

Rated speed rpm : 1103

Tolerance 1/min : + 8

Check  
speed 1/min : + 13

rack travel mm : 4.00

Rated speed rpm : 1175

Tolerance 1/min : + 15

Check  
speed 1/min : + 20

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1350

#### LOW IDLE

control lever

position degree : 71.0

tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 7.80

Testing:

Rated speed rpm : 300

rack travel mm : 6.30

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 395

Tolerance 1/min : + 20

#### TORQUE CONTROL

Rated speed rpm : 1050

rack travel mm : 11.55

Tolerance mm :  $\pm$  0.05

Rated speed rpm : 425  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 700  
rack travel mm : 12.50  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 875  
rack travel mm : 11.90  
Tolerance mm :  $\pm$  0.15

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 600  
Pressure hPa : 1200  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 600  
Pressure hPa : -  
rack travel mm : 9.60  
Tolerance mm :  $\pm$  0.20

##### MEASUREMENT

Rated speed rpm : 600  
  
Pressure hPa : 260  
rack travel mm : 10.40  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 420  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.05

---

##### Start interlock

Rated speed rpm : > 100  
Rated speed rpm : < 250

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 260

---

#### FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 500  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  7.0

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 152.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.60  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

#### LOW IDLE

Rated speed rpm : 300  
  
Rack travel in mm : 6.30  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.03.98  
Test oil : ISO 4113

Combination No. : 0 402 746 956

Injection pump  
Pump designation : PES6P120A720RS7292  
: -1  
EP type number : 0 412 726 939

Governor  
Governor design. : RQV350...1150PA1074  
: -1K  
Governor no. : 0 421 815 365

Cust. part No. : 0250740902

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 142.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holder assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.00  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery blocking

\*NW after s.o.d. : 3.30  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1150

---

Rack travel in mm : 14.20  
Tolerance mm : + 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 266.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Speed

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

Rated speed rpm : 350

Rack travel in mm : 6.00  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1206  
guide sleeve  
travel mm : 9.35  
Tolerance mm : + 0.15

Rated speed rpm : 350  
guide sleeve  
travel mm : 1.53  
Tolerance mm : + 0.20

Rated speed rpm : 855  
guide sleeve  
travel mm : 5.56

Tolerance mm : + 0.25

Rated speed rpm : 540  
guide sleeve  
travel mm : 3.09  
Tolerance mm : + 0.25

Rated speed rpm : 1480  
guide sleeve  
travel mm : 13.50  
Tolerance mm : + 0.50

---

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1331

Rack travel in mm : 13.50  
Tolerance mm : + 1.30

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
Aneroid pressure  
hPa : 1500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 266.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

##### CONTROL LEVER

control lever  
position degree : 109.0  
tolerance degree : + 4.0

RATED SPEED  
rack travel mm : 13.50  
Rated speed rpm : 1195  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1325  
Tolerance 1/min : + 15

rack travel mm : 0.70  
Tolerance mm : + 0.70

Rated speed rpm : 1400

---

#### LOW IDLE

control lever  
position degree : 65.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 250

CRT mm min. :  $>$  6.90

Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 400

---

#### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 14.20  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 950  
rack travel mm : 14.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 750  
rack travel mm : 13.50  
Tolerance mm :  $\pm$  0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 1150  
Pressure hPa : 1500  
rack travel mm : 14.20  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1150  
Pressure hPa : -  
rack travel mm : 10.50  
Tolerance mm :  $\pm$  0.15

##### MEASUREMENT

Rated speed rpm : 1150

Pressure hPa : 350  
rack travel mm : 11.10  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 850  
rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.15

---

#### Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  240

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  290

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 750  
rack travel mm : 13.50  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 269.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 134.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Set starting CRT at K-cam.

Rated speed rpm : 100

rack travel mm : 13.50  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

#### LOW IDLE

Rated speed rpm : 350  
  
Rack travel in mm : 6.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 09.03.98  
Test oil : ISO 4113

Combination No. : 0 402 776 817

Injection pump  
Pump designation : PES6P130A72ORS7318  
EP type number : 0 412 736 807

Governor  
Governor design. : RSV300...1200P0A581  
Governor no. : 0 421 833 438

Cust. part No. :

Customer-spec. information  
Customer : IVECO-AIFO  
Motor : 8461 SRM 50

## TEST BENCH REQUIREMENTS

Inlet line : 4-2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 10.45  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 316.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Speed

Tolerance  
cm3/1000 strokes : 6.0

Check tolerance  
cm3/1000S. : 10.0

Rated speed rpm : 300

Rack travel in mm : 5.30

Tolerance mm : ± 0.10

Del. quantity  
cm3/1000 strokes : 20.0

Tolerance  
cm3/1000 strokes : ± 3.0

Check tolerance  
cm3/1000S. : ± 7.0

Spread  
Tolerance

cm3/1000 strokes : 10.0

Check tolerance  
cm3/1000S. : 14.0

#### (6) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 4.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
Aneroid pressure

hPa : 1000

Del. quantity  
cm3/1000 strokes : 316.0

Tolerance  
cm3/1000 strokes : ± 1.5

Check tolerance  
cm3/1000S. : ± 5.0

Spread  
Tolerance

cm3/1000 strokes : 6.0

Check tolerance  
cm3/1000S. : 10.0

##### CONTROL LEVER

control lever  
position degree : 106.0  
tolerance degree : ± 4.0

##### RATED SPEED

rack travel mm : 9.40

Rated speed rpm : 1245

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1290

Tolerance 1/min : ± 15

rack travel mm : 0.85

Tolerance mm : ± 0.55

Rated speed rpm : 1440

##### LOW IDLE

control lever  
position degree : 72.0  
tolerance degree : ± 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 300  
rack travel mm : 4.80  
Tolerance mm : ± 0.10

##### Testing:

Rated speed rpm : 300  
rack travel mm : 5.30  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 395  
Tolerance 1/min : ± 30

##### TORQUE CONTROL

Rated speed rpm : 1200  
rack travel mm : 10.45  
Tolerance mm : ± 0.05

Rated speed rpm : 550  
rack travel mm : 10.50  
Tolerance mm : ± 0.10

Rated speed rpm : 350  
rack travel mm : 11.90  
Tolerance mm :  $\pm$  0.30

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 10.45  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 8.00  
Tolerance mm :  $\pm$  0.10

MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 500  
rack travel mm : 8.80  
Tolerance mm :  $\pm$  0.10

---

FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 171.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0

---

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated,  
rack must reach start position in max.  
control lever setting.

Rated speed rpm : 100

---

LOW IDLE

C17

Rated speed rpm : 300  
  
Rack travel in mm : 5.30  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  7.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.03.98  
Test oil : ISO 4113  
Combination No. : 0 402 946 010  
Injection pump  
Pump designation : PES6P120A320RS8028  
EP type number : 0 412 926 021  
Governor  
Governor design. : RQV275...1175PA1101K  
Governor no. : 0 421 815 982  
Cust. part No. : CCEP 5133 A 66-193

Customer spec. information  
Customer : RENAULT V.I.  
Motor : MIDR 060226 M51  
Power KW : 158.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 2 417 413 078  
Inlet press. bar : 2.5  
Tolerance bar : + 0.1  
Test nozzle holder  
assembly : 1 688 901 105  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

C18

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Prestroke mm : 5.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
Rack travel in mm : 13.00  
Tolerance mm : + 0.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75  
Start of delivery mark  
\*NW after s.o.d. : -0.15  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75  
Barrel no. : 1  
Beginning of delivery difference  
betw. rack trav.  
mm : 21.00  
and maximum rack  
travel : 12.30  
Difference \* CS : 2.00

## CRT ZERO POSITION



Rack travel in mm : 13.70  
Tolerance mm :  $\pm$  0.05

---

#### BASIC SETTING

Rated speed rpm : 1175

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 268.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

Spread

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Rated speed rpm : 275

---

Rack travel in mm : -7.30  
Tolerance mm :  $\pm$  0.10

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 42.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

---

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

---

Spread

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1230  
guide sleeve  
travel mm : 8.95  
Tolerance mm :  $\pm$  0.10

---

Rated speed rpm : 275  
guide sleeve  
travel mm : 1.01

---

Tolerance mm :  $\pm$  0.10

---

Rated speed rpm : 877  
guide sleeve  
travel mm : 6.51  
Tolerance mm :  $\pm$  0.20

---

Rated speed rpm : 389  
guide sleeve  
travel mm : 2.39  
Tolerance mm :  $\pm$  0.20

---

Rated speed rpm : 439  
guide sleeve  
travel mm : 3.01  
Tolerance mm :  $\pm$  0.20

---

Rated speed rpm : 550  
guide sleeve  
travel mm : 3.92  
Tolerance mm :  $\pm$  0.20

---

Rated speed rpm : 1650  
guide sleeve  
travel mm : 13.50  
Tolerance mm :  $\pm$  0.50

---

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1430

---

Rack travel in mm : 11.20  
Tolerance mm :  $\pm$  2.00

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1175  
Aneroid pressure  
hPa : 1600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 268.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

##### CONTROL LEVER

control lever  
position degree : 295.0  
tolerance degree :  $\pm$  4.0

RATED SPEED  
rack travel mm : -1.00  
Rated speed rpm : 1240  
Tolerance 1/min :  $\pm$  15

rack travel mm : -9.70  
Rated speed rpm : 1430  
Tolerance 1/min :  $\pm$  5

rack travel mm : -13.20  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1550

---

#### LOW IDLE

control lever  
position degree : 245.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. :  $<$  -6.70

Testing:

Rated speed rpm : 275  
rack travel mm : -7.30  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 400

---

#### TORQUE CONTROL

Rated speed rpm : 1175

Rated speed rpm : 650  
rack travel mm : -1.55  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 350  
rack travel mm : -2.80  
Tolerance mm :  $\pm$  0.25

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

C20

Rated speed rpm : 1175  
Pressure hPa : 1600

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : -5.40  
Tolerance mm :  $\pm$  0.20

#### MEASUREMENT

Rated speed rpm : 1175

Pressure hPa : 320  
rack travel mm : -4.70  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 560  
rack travel mm : -2.95  
Tolerance mm :  $\pm$  0.05

---

#### Start interlock

Rated speed rpm :  $>$  175  
Rated speed rpm :  $<$  240

Check  
speed 1/min :  $>$  155  
Check  
speed 1/min :  $<$  260

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 260.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

rack travel mm : -2.80  
Tolerance mm :  $\pm$  0.25

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 148.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 95.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 275  
  
Rack travel in mm : -7.30  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 42.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.03.98  
Test oil : ISO 4113

Combination No. : 0 402 946 030

Injection pump  
Pump designation : PES6P120A720RS8049  
EP type number : 0 412 926 031

Governor  
Governor design. : RQ750PA1299  
Governor no. : 0 421 801 810

Cust. part No. : 1397781

Customer-spec. information  
Customer : SCANIA  
Motor : DSC1158A

## TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 90  
Tolerance l/h : ± 20.0

Test nozzle holde  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.65  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 14.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

## Start of delivery blocking

Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

---

Rack travel in mm : 13.15  
Tolerance mm : + 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 363.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 11.0

---

Spread

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

Rack travel in mm : 3.00  
Tolerance mm : + 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 363.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 11.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### CONTROL LEVER

control lever  
position degree : 22.0  
tolerance degree : + 4.0

control lever  
position degree : 83.0  
tolerance degree : + 4.0

#### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750  
rack travel mm : 12.10

Rated speed rpm : 778  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

Rated speed rpm : 751  
rack travel mm : 12.10

Rated speed rpm : 779  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

Rated speed rpm : 752  
rack travel mm : 12.10

Rated speed rpm : 780  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

Rated speed rpm : 753  
rack travel mm : 12.10

Rated speed rpm : 781  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 850

Rated speed rpm : 754  
rack travel mm : 12.10

Rated speed rpm : 782  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 850

Rated speed rpm : 755  
rack travel mm : 12.10

Rated speed rpm : 783  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 850

---

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.15  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.15  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 7.70  
Tolerance mm :  $\pm$  0.20

#### MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 230  
rack travel mm : 8.45  
Tolerance mm :  $\pm$  0.25

Pressure hPa : 580  
rack travel mm : 10.45  
Tolerance mm :  $\pm$  0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  7.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.03.98  
Test oil : ISO 4113  
Combination No. : 0 403 466 151AA  
Injection pump  
Pump designation : PES6MM100/120RS1238  
EP type number : 0 413 406 237  
Governor  
Governor design. : RSV450...1100MM2A367  
Governor no. : 0 420 085 250  
Cust. part No. : 3284205

Customer spec. information  
Customer : CDC  
Motor : 6 CT  
Power kW : 138.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 2 417 413 093  
Inlet press. bar : 2.0  
Tolerance bar : ± 0.1  
Test nozzle holder assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.80  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery blocking

\*NW after s.o.d. : 8.00  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

## Beginning of delivery difference

and maximum rack  
travel : 15.00  
Difference ° CS : 2.00

---

#### BASIC SETTING

Rated speed rpm : 1050

---

Rack travel in mm : 11.10  
Tolerance mm :  $\pm$  0.10

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

Rated speed rpm : 450

Rack travel in mm : 5.15  
Tolerance mm :  $\pm$  0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.5

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5

#### Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 3

governor spring  
pre-tension  
click setting x : 3.00

026

---

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

#### CONTROL LEVER

##### control lever

position degree : 94.0

tolerance degree :  $\pm$  4.0

#### RATED SPEED

rack travel mm : 10.10

Rated speed rpm : 1090

Tolerance 1/min :  $\pm$  5

rack travel mm : 6.40

Rated speed rpm : 1175

Tolerance 1/min :  $\pm$  15

rack travel mm : 1.00

Tolerance mm :  $\pm$  0.70

Rated speed rpm : 1350

rack travel mm : 6.40

Rated speed rpm : 1175

Tolerance 1/min :  $\pm$  15

---

#### LOW IDLE

##### control lever

position degree : 78.0

tolerance degree :  $\pm$  4.0

##### Control lever difference

Grad : 16.0

tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring



Rated speed rpm : 450  
rack travel mm : 4.15  
Tolerance mm :  $\pm$  0.05

#### Testing:

Rated speed rpm : 450  
rack travel mm : 5.15  
Tolerance mm :  $\pm$  0.05

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 11.10  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 750  
rack travel mm : 11.35  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1000  
rack travel mm : 11.15  
Tolerance mm :  $\pm$  0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1200

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.50  
Tolerance mm :  $\pm$  0.20

##### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 550  
rack travel mm : 10.90  
Tolerance mm :  $\pm$  0.20

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

rack travel mm : 11.15  
Tolerance mm :  $\pm$  0.20

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 121.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 177.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  13.0

#### LOW IDLE

Rated speed rpm : 450  
Rack travel in mm : 5.15  
Tolerance mm :  $\pm$  0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition :  
Test oil : V1  
Combination No. : 0 402 746 608FR

Injection pump  
Pump designation : 0412726925  
EP type number : 0 412 726 925

Governor  
Governor design. : PES6P120A320RS7359  
Governor no. : 0 421 801 805

Cust. part No. : RENAULT V.I.

Customer spec. information  
Motor : CCEP 5157A 66-  
Power KW : LKW/BU

## TEST BENCH REQUIREMENTS

Inlet line : 250

Test oil inlet  
temp. °C : ISO 41  
Tolerance °C : 40.0

Inlet press. bar :  $\pm$  2.0

Overflow quantity  
min. l/h : 6.0  
Tolerance l/h : 220

Test nozzle holder  
assembly : B K

Opening pressure  
bar : 16889011  
Tolerance bar : 20850

Outside diameter : 2.0  
x inside diameter :  $\pm$  150

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 2600  
Tolerance bar :  $\pm$  10

Prestroke mm : 4.70  
Tolerance mm :  $\pm$  0.05  
Check  
tolerance mm :  $\pm$  0.10

Firing order : 1- 5- 3- 6- 2-  
: 4

## BASIC SETTING

Tolerance mm :  $\pm$  0.1

## (B) SETTING OF INJECTION PUMP WITH GOVERNOR

## GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
guide sleeve  
travel mm : 2.44  
Tolerance mm :  $\pm$  0.2

## LOW IDLE

### Testing:

Rated speed rpm : 275  
Tolerance mm :  $\pm$  0.1

---

LOW IDLE

Tolerance mm :  $\pm$  0.1

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.03.98  
Test oil : ISO 4113  
Combination No. : F 000 409 212  
Injection pump  
Pump designation : PES6A95D410RS2923  
EP type number : F 000 400 401  
Governor  
Governor design. : RGV300...1300AB1326L  
Governor no. : F 000 420 302

Cust. part No. : A 028 074 51 02

## Customer spec. information

Customer : M38  
Motor : OM 366LA/EuroI  
Power KW : 150.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder assembly : 0 681 343 009

Opening pressure bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.20  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 19.00  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 1500

Rack travel in mm : 13.45  
Tolerance mm : ± 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 97.0

Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance cm<sup>3</sup>/1000S. : ± 3.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 6.60  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1500  
guide sleeve  
travel mm : 9.70  
Tolerance mm : ± 0.05

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.30  
Tolerance mm : ± 0.25

Rated speed rpm : 500  
guide sleeve  
travel mm : 2.90  
Tolerance mm : ± 0.25

Rated speed rpm : 750  
guide sleeve  
travel mm : 4.80  
Tolerance mm : ± 0.10

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1366

Rack travel in mm : 16.50

D04

Tolerance mm : ± 1.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure  
hPa : 900

Del. quantity  
cm<sup>3</sup>/1000 strokes : 97.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
position degree : 113.0  
tolerance degree : ± 4.0

RATED SPEED  
rack travel mm : 12.50  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1520  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1640

##### LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : ± 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 9.00

##### Testing:

Rated speed rpm : 300

rack travel mm : 6.60  
Tolerance mm :  $\pm$  0.10  
  
Rated speed rpm : 355

---

#### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 13.45  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 750  
rack travel mm : 13.45  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 13.50  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -

##### MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 270  
rack travel mm : 1.20  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 510  
rack travel mm : 2.80  
Tolerance mm :  $\pm$  0.10

---

#### Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  210

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  230

---

#### FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500

D05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 54.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.20  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 108.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

#### LOW IDLE

Rated speed rpm : 300  
  
Rack travel in mm : 6.60  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.03.98  
Test oil : ISO 4113  
Combination No. : 0 400 836 018  
Injection pump  
Pump designation : PES6A80D410/3RS2527  
EP type number : 0 410 886 059  
Governor  
Governor design. : RQ275/1400AB798DL  
Governor no. : 0 420 202 239

Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : F6L912  
Power kW : 88.3

## TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 1.95  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 1400  
Rack travel in mm : 11.65  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 65.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Spread



Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 275

Rack travel in mm : 8.70

Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 650

Rack travel in mm : 16.00  
Tolerance mm : ± 0.40

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 65.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

#### RATED SPEED

D07

rack travel mm : 10.60  
Rated speed rpm : 1453  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1550  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1650

#### LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 7.00

#### Testing:

Rated speed rpm : 275  
rack travel mm : 8.70  
Tolerance mm : ± 0.05

rack travel mm : 2.00  
Rated speed rpm : 450  
Tolerance 1/min : ± 20

Rated speed rpm : 600

CRT mm max. : < 1.00

#### TORQUE CONTROL

Dimension a mm : 0.65  
Rated speed rpm : 1400  
rack travel mm : 11.65  
Tolerance mm : ± 0.05

Rated speed rpm : 650  
rack travel mm : 13.10  
Tolerance mm : ± 0.10

Rated speed rpm : 810  
rack travel mm : 12.70  
Tolerance mm : ± 0.10

Rated speed rpm : 1015  
rack travel mm : 12.05  
Tolerance mm : ± 0.15

---

## FUEL DELIVERY CHARACTERISTICS

---

rack travel mm : 12.70  
Tolerance mm :  $\pm$  0.10

---

## STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.70  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 100.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

## LOW IDLE

Rated speed rpm : 275  
Rack travel in mm : 8.70  
Tolerance mm :  $\pm$  0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.03.98  
Test oil : ISO 4113  
Combination No. : 0 400 836 045  
Injection pump  
Pump designation : PES6A95D410/3RS2907  
EP type number : 0 410 896 884

Governor  
Governor design. : RQV750AB1004L  
Governor no. : 0 420 212 093

Cust. part No. : 0423 2212 KY

Customer-spec. information  
Customer : KHD-DMI  
Motor : BF6L913

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

D09

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.00  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 11.35  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 69.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0

## Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S.

: 4.5

Rated speed rpm : 250

Rack travel in mm : 8.50  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 752  
guide sleeve  
travel mm : 3.49  
Tolerance mm : ± 0.15

Rated speed rpm : 530  
guide sleeve  
travel mm : -6.78  
Tolerance mm : ± 0.25

Rated speed rpm : 880  
guide sleeve  
travel mm : 17.75  
Tolerance mm : ± 0.25

Rated speed rpm : 823  
guide sleeve  
travel mm : 10.00  
Tolerance mm : ± 0.25

Rated speed rpm : 880  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1

Rated speed rpm : 800

Rack travel in mm : 11.00  
Tolerance mm : ± 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 69.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

##### CONTROL LEVER

control lever  
position degree : 88.0  
tolerance degree : ± 4.0

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 767  
rack travel mm : 10.35

Rated speed rpm : 795  
Tolerance 1/min : ± 5  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 815

Rated speed rpm : 768  
rack travel mm : 10.35

Rated speed rpm : 796  
Tolerance 1/min : ± 5  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : ± 0.50

Rated speed rpm : 769  
rack travel mm : 10.35

Rated speed rpm : 797  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00  
  
rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50

Rated speed rpm : 770  
rack travel mm : 10.35

Rated speed rpm : 798  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50

Rated speed rpm : 771  
rack travel mm : 10.35

Rated speed rpm : 799  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50

Rated speed rpm : 772  
rack travel mm : 10.35

Rated speed rpm : 800  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50

---

#### LOW IDLE

##### Testing:

Rated speed rpm : 250  
rack travel mm : 8.50  
Tolerance mm :  $\pm$  0.10

---

#### TORQUE CONTROL

Rated speed rpm : 750  
rack travel mm : 11.35  
Tolerance mm :  $\pm$  0.05

---

#### Start interlock

Rated speed rpm :  $>$  100

Rated speed rpm :  $<$  660

Check speed 1/min :  $>$  80

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm :  $\pm$  0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

#### LOW IDLE

Rated speed rpm : 250  
  
Rack travel in mm : 8.50  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.03.98  
Test oil : ISO 4113  
  
Combination No. : 0 400 836 046  
  
Injection pump  
Pump designation : PES6A95D410/3RS2907  
EP type number : 0 410 896 884  
  
Governor  
Governor design. : RQ300/1250AB935-2L  
Governor no. : 0 420 200 107

Cust. part No. : 0423 2162 KY

Customer spec. information  
Customer : KHD-DMI  
Motor : F6L913-NEW

## TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 419 992 198  
  
Inlet press. bar : 1.5  
  
Test nozzle holder  
assembly : 0 681 343 009  
  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 014  
  
Outside diameter : 6.0  
  
x inside diameter : 2.0

D12

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.00  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 1250  
  
Rack travel in mm : 11.35  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.0  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
  
Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

Rated speed rpm : 325

Rack travel in mm : 8.50  
Tolerance mm :  $\pm 0.10$

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.5

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm 1.5$

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm 3.5$

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1307  
guide sleeve  
travel mm : 6.75  
Tolerance mm :  $\pm 0.15$

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.26  
Tolerance mm :  $\pm 0.20$

Rated speed rpm : 1250  
guide sleeve  
travel mm : 6.40  
Tolerance mm :  $\pm 0.10$

Rated speed rpm : 950  
guide sleeve  
travel mm : 6.10  
Tolerance mm :  $\pm 0.10$

Rated speed rpm : 617  
guide sleeve  
travel mm : 4.68  
Tolerance mm :  $\pm 0.10$

Rated speed rpm : 740  
guide sleeve  
travel mm : 6.00

Tolerance mm :  $\pm 0.10$

Rated speed rpm : 1480  
guide sleeve  
travel mm : 11.50  
Tolerance mm :  $\pm 0.50$

Rated speed rpm : 1056  
guide sleeve  
travel mm : 6.30  
Tolerance mm :  $\pm 0.10$

##### GUIDE SLEEVE POSITION

control lever  
position degree : 109  
Rated speed rpm : 800

Rack travel in mm : 20.00  
Tolerance mm :  $\pm 0.80$

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm 0.5$   
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm 2.0$   
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

RATED SPEED  
rack travel mm : 10.30  
Rated speed rpm : 1303  
Tolerance 1/min :  $\pm 8$

rack travel mm : 4.00  
Rated speed rpm : 1380  
Tolerance 1/min :  $\pm 15$

rack travel mm : 0.50  
Tolerance mm :  $\pm 0.50$   
Rated speed rpm : 1500

##### LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 200

CRT min. : > 9.00

Testing:

Rated speed rpm : 325  
rack travel mm : 8.50  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 635  
Tolerance 1/min :  $\pm$  20

---

TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 11.35  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 750  
rack travel mm : 11.65  
Tolerance mm :  $\pm$  0.05

---

Start interlock

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80

Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -

Rated speed rpm : 750

Del. quantity  
cm<sup>3</sup>/1000 strokes : 70.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  1.00

Del. quantity

cm<sup>3</sup>/1000 strokes : 125.0

Tolerance

cm<sup>3</sup>/1000 strokes :  $\pm$  7.5

Check tolerance

cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 8.50

Tolerance mm :  $\pm$  0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 11.5

Tolerance

cm<sup>3</sup>/1000 strokes :  $\pm$  1.5

Check tolerance

cm<sup>3</sup>/1000S. :  $\pm$  3.5

Spread

Tolerance

cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance

cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet



**Note remarks**

Edition : 14.03.98  
 Test oil : ISO 4113  
 Combination No. : 0 400 865 019  
 Injection pump  
 Pump designation : PES5A80D410/3RS2526  
 EP type number : 0 410 885 004

Cust. part No. :

```
Customer-spec. information
Customer      : KHD
Motor         : F5L912
Power KW      : 62.0
```

Inlet Line : 1.3

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde  
assembly : 0 681 343 009

Opening pressure : 173.5 bar  
Tolerance bar :  $\pm$  1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

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REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

Test pressure bar : 26.0  
Tolerance bar : + 1.0

```

Prestroke norm      : 1.95
Tolerance norm      : + 0.05
Check
tolerance norm      : + 0.10

```

Rack travel in mm : 10.50  
Tolerance mm :  $\pm 1.50$

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Rated speed rpm : 1130

Rack travel in mm : 12.65  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 65.5

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  0.5

Check tolerance  
mm/1000s. :  $\pm$  2.0

Speed \_\_\_\_\_

Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

---

Rated speed rpm : 325

Rack travel in mm : 9.00

Tolerance mm : + 0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 12.0

Tolerance

cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance

cm<sup>3</sup>/1000S. : + 4.5

Speed

Tolerance

cm<sup>3</sup>/1000 strokes : 2.0

Check tolerance

cm<sup>3</sup>/1000S. : 3.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

#### GUIDE SLEEVE POSITION

control lever

position degree : - 3

Rated speed rpm : 300

Rack travel in mm : 0.50

Tolerance mm : + 0.20

governor spring

pre-tension

click setting x : 4.50

---

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1130

Aneroid pressure

hPa : -

Del. quantity

cm<sup>3</sup>/1000 strokes : 65.5

Tolerance

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance

cm<sup>3</sup>/1000S. : + 2.0

Speed

Tolerance

cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance

cm<sup>3</sup>/1000S. : 4.0

---

#### CONTROL LEVER

control lever

position degree : 104.0

tolerance degree : + 4.0

#### RATED SPEED

rack travel mm : 11.60

Rated speed rpm : 1175

Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1230

Tolerance 1/min : + 15

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1350

rack travel mm : 4.00

Rated speed rpm : 1235

Tolerance 1/min : + 15

---

#### LOW IDLE

control lever

position degree : 69.0

tolerance degree : + 4.0

#### Setting point w/out bumper spring

Rated speed rpm : 325

rack travel mm : 8.50

Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

#### Testing:

Rated speed rpm : 325

rack travel mm : 9.00

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 500

Tolerance 1/min : + 30

---

#### TORQUE CONTROL

Dimension a mm : 0.70

Rated speed rpm : 1130

rack travel mm : 12.65  
Tolerance mm :  $\pm$  0.05  
  
Rated speed rpm : 500  
rack travel mm : 13.35  
Tolerance mm :  $\pm$  0.05  
  
Rated speed rpm : 910  
rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.10

---

#### FUEL DELIVERY CHARACTERISTICS

---

rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.10

---

#### LOW IDLE

Rated speed rpm : 325  
  
Rack travel in mm : 9.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.03.98  
Test oil : ISO 4113  
Combination No. : 0 400 866 069  
Injection pump  
Pump designation : PES6A900320/3RS2464  
EP type number : 0 410 896 029  
Governor  
Governor design. : RSV300...1000A7C529R  
Governor no. : 0 420 233 191

Cust. part No. :

Customer-spec. information  
Customer : MWM

## TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 922 198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009\_  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

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## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 2.20  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 980  
Rack travel in mm : 10.30  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 68.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 2.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

Rated speed rpm : 300  
Rack travel in mm : 7.50  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800  
Rack travel in mm : 0.65  
Tolerance mm :  $\pm$  0.35

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 68.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  0.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  2.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

##### CONTROL LEVER

control lever  
position degree : 65.0  
tolerance degree :  $\pm$  4.0

RATED SPEED  
rack travel mm : 9.30  
Rated speed rpm : 1025  
Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
Rated speed rpm : 1055  
Tolerance 1/min :  $\pm$  15

rack travel mm : 1.00  
Tolerance mm :  $\pm$  0.70  
Rated speed rpm : 1200

rack travel mm : 4.00

---

##### LOW IDLE

control lever  
position degree : 28.0  
tolerance degree :  $\pm$  4.0

##### Setting point w/out bumper spring

Rated speed rpm : 300  
rack travel mm : 8.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. :  $>$  19.50

##### Testing:

Rated speed rpm : 300  
rack travel mm : 7.50  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 430  
Tolerance 1/min :  $\pm$  30

Rated speed rpm : 450

CRT mm max. :  $<$  1.00

---

##### TORQUE CONTROL

Rated speed rpm : 980  
rack travel mm : 10.30  
Tolerance mm :  $\pm$  0.05

---

Start interlock

Rated speed rpm : > 100

Check  
speed 1/min : > 80

---

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 20.25

Tolerance mm :  $\pm$  0.75

Del. quantity  
cm<sup>3</sup>/1000 strokes : 118.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5

Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  10.0

---

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 7.50

Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm<sup>3</sup>/1000s. : 6.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.03.98  
Test oil : ISO 4113  
Combination No. : 0 400 866 070  
Injection pump  
Pump designation : PES6A900320/3RS2464  
EP type number : 0 410 896 029  
Governor  
Governor design. : RSV325...1500A2C529R  
Governor no. : 0 420 233 189

Cust. part No. :

Customer spec. information  
Customer : MWM

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5  
Test lines : 0 680 750 014  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Prestroke mm : 2.20  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

## BASIC SETTING

Del. quantity  
cm<sup>3</sup>/1000 strokes : 68.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5  
Rated speed rpm : 325

Rack travel in mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 10.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  3.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever  
 position degree : - 3  
 Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm :  $\pm$  0.20

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1480  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 68.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  2.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.5

##### CONTROL LEVER

control lever  
 position degree : 108.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED  
 rack travel mm : 8.00  
 Rated speed rpm : 1525

Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
 Rated speed rpm : 1560  
 Tolerance 1/min :  $\pm$  15

rack travel mm : 0.85  
 Tolerance mm :  $\pm$  0.55  
 Rated speed rpm : 1700

rack travel mm : 4.00  
 Rated speed rpm : 1575  
 Tolerance 1/min :  $\pm$  15

##### LOW IDLE

control lever  
 position degree : 70.0  
 tolerance degree :  $\pm$  4.0

##### Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 7.50  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

##### Testing:

Rated speed rpm : 325  
 rack travel mm : 7.00  
 Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
 Rated speed rpm : 480  
 Tolerance 1/min :  $\pm$  30

##### Start interlock

Rated speed rpm : > 100

Check  
 speed 1/min : > 80

##### STARTING FUEL DELIVERY

Rated speed rpm : 100



rack travel mm : 20.25  
Tolerance mm : + 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 118.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 11.0

---

#### LOW IDLE

Rated speed rpm : 325  
  
Rack travel in mm : 7.00  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.03.98  
Test oil : ISO 4113

Combination No. : 0 400 866 078

Injection pump  
Pump designation : PES6A85D410/3RS2415  
EP type number : 0 410 886 915

Governor  
Governor design. : RSV325...900A7C720L  
Governor no. : 0 420 232 339

Cust. part No. :

Customer spec. information  
Customer : KHD  
Motor : 3FSL913

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198\_

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

D24

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 1.95  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 11.85  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 68.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.5

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

Rated speed rpm : 325

Rack travel in mm : 8.10  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 3

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

---

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 68.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

#### CONTROL LEVER

control lever  
position degree : 107.0  
tolerance degree : + 4.0

#### RATED SPEED

rack travel mm : 10.80  
Rated speed rpm : 945  
Tolerance 1/min : + 5

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

rack travel mm : 4.00  
Rated speed rpm : 995  
Tolerance 1/min : + 15

---

#### LOW IDLE

control lever  
position degree : 75.0  
tolerance degree : + 4.0

#### Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 7.60  
Tolerance mm : + 0.10

#### Testing:

Rated speed rpm : 325  
rack travel mm : 8.10  
Tolerance mm : + 0.10

---

#### TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 11.85  
Tolerance mm : + 0.05

Rated speed rpm : 600  
rack travel mm : 12.35  
Tolerance mm : + 0.05

Rated speed rpm : 800  
rack travel mm : 12.15  
Tolerance mm : + 0.15

---

#### FUEL DELIVERY CHARACTERISTICS

rack travel mm : 12.15  
Tolerance mm :  $\pm$  0.15

---

LOW IDLE

Rated speed rpm : 325  
Rack travel in mm : 8.10  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.03.98  
Test oil : ISO 4113  
Combination No. : 0 400 873 036  
Injection pump  
Pump designation : PES3A90D32ORS2626  
EP type number : 0 410 883 002  
Governor  
Governor design. : RSV300...975A1C2171  
: -5R  
Governor no. : 0 420 233 185

Cust. part No. :

## Customer-spec. information

Customer : EICHER  
Motor : EDL 3/8.3/9.3  
Power kW : 41.0

## TEST BENCH REQUIREMENTS

Inlet line : 1.0

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 975

Rack travel in mm : 11.40  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 77.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

## Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

Rated speed rpm : 300

Rack travel in mm : 8.00  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE POSITION

control lever  
position degree : FREE  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 4.50

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 975  
Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 77.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

##### CONTROL LEVER

control lever  
position degree : 102.0  
tolerance degree : ± 4.0

RATED SPEED  
rack travel mm : 10.40

Rated speed rpm : 1020  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1065

Tolerance 1/min : ± 15

rack travel mm : 0.85  
Tolerance mm : ± 0.55

Rated speed rpm : 1230

rack travel mm : 4.00  
Rated speed rpm : 1080

---

##### LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 300  
rack travel mm : 7.50  
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

##### Testing:

Rated speed rpm : 300  
rack travel mm : 8.00  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 430  
Tolerance 1/min : ± 30

---

##### TORQUE CONTROL

Rated speed rpm : 975  
rack travel mm : 11.40  
Tolerance mm : ± 0.05

Rated speed rpm : 500  
rack travel mm : 11.45  
Tolerance mm :  $\pm$  0.05

---

#### FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 70.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm :  $\pm$  0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 138.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

#### LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 8.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.03.98  
Test oil : ISO 4113  
Combination No. : F 002 A02 011  
Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215  
Governor  
Governor design. : RSV475...1100A0C888R  
Governor no. : F 002 A20 212

Cust. part No. : 3930164

Customer spec. information  
Customer : CUMMINS  
Motor : 6BTA  
Power kW : 124.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 2 417 413 093  
Inlet press. bar : 2.0  
Test nozzle holder  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

E02

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
Start of delivery blocking  
°NW after s.o.d. : 7.50  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.29  
Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1050  
Rack travel in mm : 13.65



Tolerance mm	: ± 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 116.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 3.0
<hr/>	
Speed	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 6.5
<hr/>	

Rated speed rpm	: 475
Rack travel in mm	: 5.95
Tolerance mm	: ± 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 20.6
Tolerance cm <sup>3</sup> /1000 strokes	: ± 2.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.5
Speed	
Tolerance cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance cm <sup>3</sup> /1000S.	: 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever position degree	: FREE
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
<hr/>	
governor spring pre-tension click setting x	: 2.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1050
Aneroid pressure hPa	: 1200
Del. quantity cm <sup>3</sup> /1000 strokes	: 116.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 3.0
Speed	
Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance cm <sup>3</sup> /1000S.	: 6.5

##### CONTROL LEVER

control lever position degree	: 94.0
tolerance degree	: ± 4.0

RATED SPEED	
rack travel mm	: 12.70
Rated speed rpm	: 1115
Tolerance 1/min	: ± 5

rack travel mm	: 4.00
Rated speed rpm	: 1185
Tolerance 1/min	: ± 15

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1300

rack travel mm	: 4.00
Rated speed rpm	: 1190
Tolerance 1/min	: ± 15

##### LOW IDLE

control lever position degree	: 75.0
tolerance degree	: ± 4.0

Control lever difference	
Grad	: 19.0
tolerance degree	: ± 6.0

##### Setting point w/out bumper spring

Rated speed rpm	: 475
rack travel mm	: 4.95
Tolerance mm	: ± 0.10

Rated speed rpm : 100  
CRT min. : > 19.00

#### Testing:

Rated speed rpm : 475  
rack travel mm : 5.95  
Tolerance mm :  $\pm$  0.10  
  
rack travel mm : 2.00  
Rated speed rpm : 550  
Tolerance 1/min :  $\pm$  30

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 13.65  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 750

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
  
Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.70  
Tolerance mm :  $\pm$  0.20

##### MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 550  
rack travel mm : 12.50  
Tolerance mm :  $\pm$  0.20  
  
Pressure hPa : 400  
rack travel mm : 11.85  
Tolerance mm :  $\pm$  0.20

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.9  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 121.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  15.0

#### LOW IDLE

Rated speed rpm : 475  
  
Rack travel in mm : 5.95  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.6  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 09.12.97  
Test oil : ISO 4113  
Combination No. : 0 402 776 819  
Injection pump  
Pump designation : PES6P120A320LS7285  
EP type number : 0 412 726 892  
Governor  
Governor design. : RSV350...1100P1A601  
Governor no. : 0 421 833 482

Cust. part No. : 1823388C91

Customer spec. information  
Customer : NAVISTAR  
Motor : DTA-531  
Power kW : 222.0

## TEST BENCH REQUIREMENTS

Inlet line : 2.4  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 2 417 413 076  
Inlet press. bar : 2.8  
Tolerance bar : + 0.1  
Test nozzle holder  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 008  
Outside diameter : 6.0

E05

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0  
Prestroke mm : 2.90  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75  
Start of delivery blocking  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75  
Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 13.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 216.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.50  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 33.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 3.25

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 216.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever  
position degree : 103.0  
tolerance degree : ± 4.0

RATED SPEED  
rack travel mm : 12.20  
Rated speed rpm : 1150  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1200  
Tolerance 1/min : ± 5

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1250

rack travel mm : 4.00  
Rated speed rpm : 1205  
Tolerance 1/min : ± 5

#### LOW IDLE

control lever  
position degree : 72.5  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

Rated speed rpm : 350  
rack travel mm : 5.50  
Tolerance mm : ± 0.10

---

**TORQUE CONTROL**

Rated speed rpm : 1100  
rack travel mm : 13.25  
Tolerance mm :  $\pm$  0.05

---

**ANEROID/ALTITUDE  
COMPENSATOR TEST****SETTING**

Rated speed rpm : 400  
Pressure hPa : 1500

Rated speed rpm : 400  
Pressure hPa : -  
rack travel mm : 8.30  
Tolerance mm :  $\pm$  0.20

**MEASUREMENT**

Rated speed rpm : 400  
Pressure hPa : 1035  
rack travel mm : 11.90  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 450  
rack travel mm : 9.30  
Tolerance mm :  $\pm$  0.05

---

**FUEL DELIVERY CHARACTERISTICS**

---

Aneroid pressure  
hPa : -

Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 106.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  25.0

---

**LOW IDLE**

Rated speed rpm : 350  
Rack travel in mm : 5.50  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 33.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.03.98  
Test oil : ISO 4113  
Combination No. : F 002 A02 039  
Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215  
Governor  
Governor design. : RSV500...1100A0C919R  
Governor no. : F 002 A20 229

Cust. part No. : 3932479

## Customer spec. information

Customer : CDC  
Motor : 68T  
Power KW : 101.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Test nozzle holde  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Start of delivery blocking

\*NW after s.o.d. : 7.00  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.35

Tolerance mm	: + 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 95.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: + 3.0
<hr/>	
Speed	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 6.0
<hr/>	

Rated speed rpm	: 500
<hr/>	
Rack travel in mm	: 5.10
Tolerance mm	: + 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 18.5
Tolerance cm <sup>3</sup> /1000 strokes	: + 2.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.5
Speed	
Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance cm <sup>3</sup> /1000S.	: 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
<hr/>	
governor spring pre-tension click setting x	: 1.75

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure hPa	: 900
Del. quantity cm <sup>3</sup> /1000 strokes	: 95.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 3.0
Speed	
Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance cm <sup>3</sup> /1000S.	: 6.0

##### CONTROL LEVER

control lever position degree	: 92.0
tolerance degree	: + 4.0

<hr/>	
RATED SPEED	
rack travel mm	: 10.30
Rated speed rpm	: 1170
Tolerance 1/min	: + 5
Check speed 1/min	: + 10

rack travel mm	: 5.40
Rated speed rpm	: 1235
Tolerance 1/min	: + 5
Check speed 1/min	: + 10

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1350

rack travel mm	: 5.40
Rated speed rpm	: 1235
Tolerance 1/min	: + 15
Check speed 1/min	: + 20

##### LOW IDLE

control lever position degree	: 75.0
tolerance degree	: + 4.0

<hr/>	
Control lever difference	
Grad	: 17.0
tolerance degree	: + 6.0

#### Setting point w/out bumper spring

Rated speed rpm : 500  
rack travel mm : 4.60  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. :  $>$  19.00

#### Testing:

Rated speed rpm : 500  
rack travel mm : 5.10  
Tolerance mm :  $\pm$  0.10

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 11.35  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 12.15  
Tolerance mm :  $\pm$  0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 800  
Pressure hPa : 900

Rated speed rpm : 800  
Pressure hPa : -  
rack travel mm : 11.40  
Tolerance mm :  $\pm$  0.20

#### MEASUREMENT

Rated speed rpm : 800  
Pressure hPa : 650  
rack travel mm : 11.65  
Tolerance mm :  $\pm$  0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 107.5

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 97.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  15.0

#### LOW IDLE

Rated speed rpm : 500  
Rack travel in mm : 5.10  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.03.98  
Test oil : ISO 4113  
  
Combination No. : F 002 A0Z 043  
  
Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215  
  
Governor  
Governor design. : RSV500...1100A0C925R  
Governor no. : F 002 A20 233

Cust. part No. : 3932478

Customer spec. information  
Customer : CDC  
Motor : 6BT  
Power KW : 90.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## Start of delivery blocking

\*NW after s.o.d. : 7.00  
Tolerance : ± 0.50  
Check  
tolerance \*NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.85  
Tolerance mm : ± 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	:	86.0
Tolerance cm <sup>3</sup> /1000 strokes	:	± 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	± 3.0
Spreed		
Tolerance cm <sup>3</sup> /1000 strokes	:	3.5
Check tolerance cm <sup>3</sup> /1000S.	:	6.0

Rated speed rpm	:	500
Rack travel in mm	:	5.40
Tolerance mm	:	± 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	:	18.5
Tolerance cm <sup>3</sup> /1000 strokes	:	± 2.0
Check tolerance cm <sup>3</sup> /1000S.	:	± 4.5
Spreed		
Tolerance cm <sup>3</sup> /1000 strokes	:	3.5
Check tolerance cm <sup>3</sup> /1000S.	:	5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever position degree	:	- 3
Rated speed rpm	:	800
Rack travel in mm	:	0.50
Tolerance mm	:	± 0.20
governor spring pre-tension click setting x	:	3.50

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1100
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E12

Aneroid pressure hPa	:	900
Del. quantity cm <sup>3</sup> /1000 strokes	:	86.0
Tolerance cm <sup>3</sup> /1000 strokes	:	± 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	± 3.0
Spreed		
Tolerance cm <sup>3</sup> /1000 strokes	:	3.5
Check tolerance cm <sup>3</sup> /1000S.	:	6.0

#### CONTROL LEVER

control lever position degree	:	94.0
tolerance degree	:	± 4.0

RATED SPEED		
rack travel mm	:	9.80
Rated speed rpm	:	1165
Tolerance 1/min	:	± 5
Check speed 1/min	:	± 10

rack travel mm	:	6.00
Rated speed rpm	:	1220
Tolerance 1/min	:	± 5
Check speed 1/min	:	± 10

rack travel mm	:	0.85
Tolerance mm	:	± 0.55
Rated speed rpm	:	1350

rack travel mm	:	6.00
Rated speed rpm	:	1225
Tolerance 1/min	:	± 15
Check speed 1/min	:	± 20

#### LOW IDLE

control lever position degree	:	80.0
tolerance degree	:	± 4.0

Control lever difference Grad	:	14.0
tolerance degree	:	± 6.0

Setting point w/out bumper spring

Rated speed rpm : 500  
rack travel mm : 4.90  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100  
CRT mm min. :  $>$  19.00

#### Testing:

Rated speed rpm : 500  
rack travel mm : 5.40  
Tolerance mm :  $\pm$  0.10

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 10.85  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 11.55  
Tolerance mm :  $\pm$  0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 800  
Pressure hPa : -

#### MEASUREMENT

Pressure hPa : 800  
rack travel mm : 11.05  
Tolerance mm :  $\pm$  0.30

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 96.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  15.0

---

#### LOW IDLE

Rated speed rpm : 500  
Rack travel in mm : 5.40  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.03.98  
Test oil : ISO 4113

Combination No. : F 002 A0Z 069

Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215

Governor  
Governor design. : RSV500...1100A2C947R  
Governor no. : F 002 A20 248

Cust. part No. : 3933623

## Customer spec. information

Customer : CDC  
Motor : 6BTA  
Power kW : 125.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

E14

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery blocking

\*NW after s.o.d. : 8.50  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.00

Tolerance mm	: + 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 109.5
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: + 3.0
<hr/>	
Spreed	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 6.0
<hr/>	

Rated speed rpm	: 500
<hr/>	
Rack travel in mm	: 5.50
Tolerance mm	: + 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 21.5
Tolerance cm <sup>3</sup> /1000 strokes	: + 2.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.5
Spreed	
Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance cm <sup>3</sup> /1000S.	: 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
<hr/>	
governor spring pre-tension click setting x	: 3.50

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure hPa	: 1400
Del. quantity cm <sup>3</sup> /1000 strokes	: 109.5
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 3.0
Spreed	
Tolerance cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance cm <sup>3</sup> /1000S.	: 6.0

#### CONTROL LEVER

control lever position degree	: 98.0
tolerance degree	: + 4.0

<hr/>	
RATED SPEED	
rack travel mm	: 12.00
Rated speed rpm	: 1155
Tolerance 1/min	: + 5
Check speed 1/min	: + 10

rack travel mm	: 4.00
Rated speed rpm	: 1245
Tolerance 1/min	: + 5
Check speed 1/min	: + 10

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1400

rack travel mm	: 4.00
Rated speed rpm	: 1245
Tolerance 1/min	: + 15
Check speed 1/min	: + 20

#### LOW IDLE

control lever position degree	: 78.0
tolerance degree	: + 4.0

Control lever difference Grad	: 20.0
tolerance degree	: + 6.0

### Setting point w/out bumper spring

Rated speed rpm : 500  
rack travel mm : 5.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. :  $>$  19.00

#### Testing:

Rated speed rpm : 500  
rack travel mm : 5.50  
Tolerance mm :  $\pm$  0.10

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 750  
rack travel mm : 14.65  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1000  
rack travel mm : 13.80  
Tolerance mm :  $\pm$  0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1400

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.60  
Tolerance mm :  $\pm$  0.20

##### MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 800  
rack travel mm : 13.50  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 600  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.20

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1400  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 132.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

rack travel mm : 13.80  
Tolerance mm :  $\pm$  0.20

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 82.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 121.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  15.0

#### LOW IDLE

Rated speed rpm : 500  
Rack travel in mm : 5.50  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
ca3/1000s. : 5.5

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End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.01.95  
Test oil : ISO 4113  
Combination No. : 0 401 646 003  
Injection pump  
Pump designation : PES6R120/720LS1505  
: -1  
EP type number : 0 411 626 005  
Governor  
Governor design. : RQV300...1100R3K  
Governor no. : 0 421 415 004

Cust. part No. : 51.11103-7393

Customer spec. information  
Customer : MAN  
Motor : D2866LE401  
Power KW : 440.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holder  
assembly : 1 688 901 105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.45  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 12.00  
Tolerance mm : ± 0.50  
Firing order : 6- 2- 4- 1- 5-  
: 3  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
Start of delivery mark  
Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 15.30  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 385.0



Tolerance	
cm3/1000 strokes	: + 1.0
Check tolerance	
cm3/1000S.	: + 4.0
Spread	
Tolerance	
cm3/1000 strokes	: 6.0
Check tolerance	
cm3/1000S.	: 10.0

Rated speed rpm	: 325
Rack travel in mm	: 5.10
Tolerance mm	: + 0.10
Del. quantity	
cm3/1000 strokes	: 20.0
Tolerance	
cm3/1000 strokes	: + 3.0
Check tolerance	
cm3/1000S.	: + 6.0
Spread	
Tolerance	
cm3/1000 strokes	: 10.0
Check tolerance	
cm3/1000S.	: 14.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 1164
guide sleeve	
travel mm	: 10.04
Tolerance mm	: + 0.25
Rated speed rpm	: 325
guide sleeve	
travel mm	: 2.12
Tolerance mm	: + 0.25
Rated speed rpm	: 826
guide sleeve	
travel mm	: 6.86
Tolerance mm	: + 0.25
Rated speed rpm	: 338
guide sleeve	
travel mm	: 2.28
Tolerance mm	: + 0.25
Rated speed rpm	: 388

guide sleeve	
travel mm	: 2.90
Tolerance mm	: + 0.25
Rated speed rpm	: 510
guide sleeve	
travel mm	: 4.02
Tolerance mm	: + 0.25
Rated speed rpm	: 1430
guide sleeve	
travel mm	: 13.50
Tolerance mm	: + 0.50

##### GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1230
Rack travel in mm	: 14.30
Tolerance mm	: + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 2500
Del. quantity	
cm3/1000 strokes	: 385.0
Tolerance	
cm3/1000 strokes	: + 1.0
Check tolerance	
cm3/1000S.	: + 4.0
Spread	
Tolerance	
cm3/1000 strokes	: 6.0
Check tolerance	
cm3/1000S.	: 10.0

##### CONTROL LEVER

control lever	
position degree	: 122.0
tolerance degree	: + 4.0

##### RATED SPEED

rack travel mm	: 14.30
Rated speed rpm	: 1152
Tolerance 1/min	: + 8
rack travel mm	: 4.00
Rated speed rpm	: 1295
Tolerance 1/min	: + 15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1425

---

#### LOW IDLE

control lever  
position degree : 76.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. :  $>$  7.00

Testing:

Rated speed rpm : 325  
rack travel mm : 5.10  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 350

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 15.30  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 900  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 700  
rack travel mm : 12.60  
Tolerance mm :  $\pm$  0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 1100  
Pressure hPa : 2500  
rack travel mm : 15.30  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1100  
Pressure hPa : -  
rack travel mm : 8.20  
Tolerance mm :  $\pm$  0.20

##### MEASUREMENT

E20

Rated speed rpm : 1100

Pressure hPa : 1400  
rack travel mm : 13.70  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 300  
rack travel mm : 8.60  
Tolerance mm :  $\pm$  0.05

---

#### Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  260

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  280

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 2500  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 353.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : 2500  
Rated speed rpm : 700  
rack travel mm : 12.60  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 327.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 187.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 555.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

#### LOW IDLE

Rated speed rpm : 325  
Rack travel in mm : 5.10  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.06.93  
Test oil : ISO 4113  
Combination No. : 0 401 846 975  
Injection pump  
Pump designation : PE6P110A720RS3243  
EP type number : 0 411 816 770

Governor  
Governor design. : RQ300/1100PA412-5  
Governor no. : 0 421 801 562

Cust. part No. : 615.60.08.0267

Customer-spec. information  
Customer : SNF  
Motor : WD615.63  
Power KW : 204.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.70

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0

Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000s. : 7.5

Rack travel in mm : 4.00  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm<sup>3</sup>/1000s. : 7.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1157  
guide sleeve  
travel mm : 6.46  
Tolerance mm : + 0.10

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.99  
Tolerance mm : + 0.10

Rated speed rpm : 1100  
guide sleeve  
travel mm : 6.00  
Tolerance mm : + 0.10

Rated speed rpm : 378  
guide sleeve  
travel mm : 3.69  
Tolerance mm : + 0.10

Rated speed rpm : 510  
guide sleeve  
travel mm : 6.00  
Tolerance mm : + 0.10

Rated speed rpm : 1330  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 600

Rack travel in mm : 15.00  
Tolerance mm : + 0.40

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 7.5

##### CONTROL LEVER

control lever  
position degree : 100.0  
tolerance degree : + 4.0

RATED SPEED  
rack travel mm : 11.70  
Rated speed rpm : 1153  
Tolerance 1/min : + 8

rack travel mm : 4.00  
Rated speed rpm : 1250  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1350

##### LOW IDLE

control lever  
position degree : 73.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 100  
CRT mm min. :  $>$  5.50

Testing:

Rated speed rpm : 300  
rack travel mm : 4.00  
Tolerance mm :  $\pm$  0.10  
  
rack travel mm : 2.00  
Rated speed rpm : 370  
Tolerance 1/min :  $\pm$  20

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.00  
Tolerance mm :  $\pm$  0.10

##### MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 325  
rack travel mm : 10.40  
Tolerance mm :  $\pm$  0.10  
  
Pressure hPa : 500  
rack travel mm : 11.95  
Tolerance mm :  $\pm$  0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 174.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0

---

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 121.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 18.00  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

---

#### LOW IDLE

Rack travel in mm : 4.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.06.93  
Test oil : ISO 4113  
  
Combination No. : 0 401 846 976  
  
Injection pump  
Pump designation : PE6P110A720RS3243  
EP type number : 0 411 816 770

Governor  
Governor design. : RQ300/1100PA412-4  
Governor no. : 0 421 801 496

Cust. part No. : 615.60.08.0268

Customer spec. information  
Customer : SNF  
Motor : WD615.68  
Power KW : 228.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.75  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 184.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0



---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spread

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

Rack travel in mm : 4.00  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1158  
guide sleeve  
travel mm : 6.43  
Tolerance mm : + 0.10

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.97  
Tolerance mm : + 0.10

Rated speed rpm : 1100  
guide sleeve  
travel mm : 6.00  
Tolerance mm : + 0.10

Rated speed rpm : 378  
guide sleeve  
travel mm : 3.66  
Tolerance mm : + 0.10

Rated speed rpm : 510  
guide sleeve  
travel mm : 6.00  
Tolerance mm : + 0.10

Rated speed rpm : 1330  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

---

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 600

Rack travel in mm : 16.00  
Tolerance mm : + 0.60

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 184.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

##### CONTROL LEVER

control lever  
position degree : 103.0  
tolerance degree : + 4.0

RATED SPEED  
rack travel mm : 12.70  
Rated speed rpm : 1153  
Tolerance 1/min : + 8

rack travel mm : 4.00  
Rated speed rpm : 1255  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1350

---

##### LOW IDLE

control lever  
position degree : 73.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 100  
CRT mm min. :  $>$  5.50

Testing:

Rated speed rpm : 300  
rack travel mm : 4.00  
Tolerance mm :  $\pm$  0.10  
  
rack travel mm : 2.00  
Rated speed rpm : 370  
Tolerance 1/min :  $\pm$  20

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 13.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 13.75  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 13.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.05  
Tolerance mm :  $\pm$  0.15

#### MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 375  
rack travel mm : 11.00  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 630  
rack travel mm : 12.95  
Tolerance mm :  $\pm$  0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 194.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  6.0

---

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  24.0

---

#### LOW IDLE

Rack travel in mm : 4.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 7.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 15.06.93  
Test oil : ISO 4113  
Combination No. : 0 401 846 977  
Injection pump  
Pump designation : PE6P110A720RS3243  
EP type number : 0 411 816 770

Governor  
Governor design. : RQV250...1100PA413  
: -5  
Governor no. : 0 421 813 811

Cust. part No. : 615.60.08.0269

Customer-spec. information  
Customer : SNF  
Motor : WD615.68  
Power KW : 228.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

F02

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.75  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 184.0

Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spreed	
<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5
<hr/>	

Rack travel in mm	: 4.00
Tolerance mm	: ± 0.10
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 18.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 6.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.5
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 1157
guide sleeve	
travel mm	: 8.51
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 250
guide sleeve	
travel mm	: 1.13
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 816
guide sleeve	
travel mm	: 5.35
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 356
guide sleeve	
travel mm	: 1.99
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 406

guide sleeve	
travel mm	: 2.42
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 510
guide sleeve	
travel mm	: 3.11
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1390
guide sleeve	
travel mm	: 11.50
Tolerance mm	: ± 0.50

##### GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1210
<hr/>	
Rack travel in mm	: 12.75
Tolerance mm	: ± 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure	
hPa	: -
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 184.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5

##### CONTROL LEVER

control lever	
position degree	: 108.0
tolerance degree	: ± 4.0
<hr/>	
RATED SPEED	
rack travel mm	: 12.70
Rated speed rpm	: 1145
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1255
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50

Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1350

---

#### LOW IDLE

control lever  
position degree : 72.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. :  $>$  5.50

#### Testing:

Rated speed rpm : 250  
rack travel mm : 4.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 300

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 13.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 13.75  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 13.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.05  
Tolerance mm :  $\pm$  0.15

#### MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 375  
rack travel mm : 11.00

F04

Tolerance mm :  $\pm$  0.10

Pressure hPa : 630  
rack travel mm : 12.95  
Tolerance mm :  $\pm$  0.05

---

#### Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  170

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  190

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 195.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

---

#### LOW IDLE

Rack travel in mm : 4.00  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 7.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.06.93  
Test oil : ISO 4113  
  
Combination No. : 0 401 846 978  
  
Injection pump  
Pump designation : PE6P110A720RS3243-1  
EP type number : G 411 816 791

Governor  
Governor design. : RQ300/1100PA412-8  
Governor no. : 0 421 801 683

Cust. part No. : 615.60.08.0270

Customer spec. information  
Customer : SNF  
Motor : WD615.97

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.25  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 184.0



Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

Rack travel in mm : 3.80  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1158  
guide sleeve  
travel mm : 6.44  
Tolerance mm : ± 0.10

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.98  
Tolerance mm : ± 0.10

Rated speed rpm : 1100  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 373  
guide sleeve  
travel mm : 3.53  
Tolerance mm : ± 0.10

Rated speed rpm : 510

guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1330  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 600

Rack travel in mm : 16.00  
Tolerance mm : ± 0.60

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 184.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

##### CONTROL LEVER

control lever  
position degree : 102.0  
tolerance degree : ± 4.0

RATED SPEED  
rack travel mm : 12.20  
Rated speed rpm : 1153  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1255  
Tolerance 1/min : ± 15

rack travel mm : 0.60  
Tolerance mm : ± 0.60  
Rated speed rpm : 1350

---

## LOW IDLE

control lever  
position degree : 73.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 200  
CRT mm min. :  $>$  5.20

### Testing:

Rated speed rpm : 300  
rack travel mm : 3.80  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 370  
Tolerance 1/min :  $\pm$  20

---

## TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 13.25  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 13.25  
Tolerance mm :  $\pm$  0.05

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 13.25  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 9.70  
Tolerance mm :  $\pm$  0.10

### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 375  
rack travel mm : 10.70  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 630  
rack travel mm : 12.45  
Tolerance mm :  $\pm$  0.05

---

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 190.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0

---

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

## STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 18.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

---

## LOW IDLE

Rack travel in mm : 3.80  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm3/1000S. : 7.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.10.93  
Test oil : ISO 4113

Combination No. : 0 401 846 979

Injection pump  
Pump designation : PE6P110A720RS3243  
EP type number : 0 411 816 770

Governor  
Governor design. : RQV250...1100PA413  
: -6  
Governor no. : 0 421 813 898

Cust. part No. : 615.60.08.0271

Customer spec. information  
Customer : SNF  
Motor : WD615.63  
Power kW : 204.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0

Tolerance  
cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000S. : + 4.0

Speed

Tolerance  
cm3/1000 strokes : 4.0

Check tolerance  
cm3/1000S. : 7.5

Rack travel in mm : 4.50  
Tolerance mm : + 0.10

Del. quantity  
cm3/1000 strokes : 23.0

Tolerance  
cm3/1000 strokes : + 3.0

Check tolerance  
cm3/1000S. : + 6.0

Speed

Tolerance  
cm3/1000 strokes : 4.5

Check tolerance  
cm3/1000S. : 7.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1157  
guide sleeve  
travel mm : 8.51  
Tolerance mm : + 0.25

Rated speed rpm : 250  
guide sleeve  
travel mm : 1.13  
Tolerance mm : + 0.25

Rated speed rpm : 816  
guide sleeve  
travel mm : 5.35  
Tolerance mm : + 0.25

Rated speed rpm : 356  
guide sleeve  
travel mm : 1.99  
Tolerance mm : + 0.25

Rated speed rpm : 406

guide sleeve  
travel mm : 2.42  
Tolerance mm : + 0.25

Rated speed rpm : 510  
guide sleeve  
travel mm : 3.11  
Tolerance mm : + 0.25

Rated speed rpm : 1390  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1220

Rack travel in mm : 11.75  
Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure  
hPa : -  
Del. quantity  
cm3/1000 strokes : 165.0  
Tolerance  
cm3/1000 strokes : + 1.0  
Check tolerance  
cm3/1000S. : + 4.0  
Speed  
Tolerance  
cm3/1000 strokes : 4.0  
Check tolerance  
cm3/1000S. : 7.5

##### CONTROL LEVER

control lever  
position degree : 110.0  
tolerance degree : + 4.0

RATED SPEED  
rack travel mm : 11.70  
Rated speed rpm : 1145  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1255  
Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1350

---

#### LOW IDLE

control lever  
position degree : 78.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. :  $>$  6.00

Testing:

Rated speed rpm : 250  
rack travel mm : 4.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 300

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 12.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.00  
Tolerance mm :  $\pm$  0.10

#### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 325  
rack travel mm : 10.40

F12

Tolerance mm :  $\pm$  0.10

Pressure hPa : 500  
rack travel mm : 11.95  
Tolerance mm :  $\pm$  0.05

---

#### Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  170

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  190

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 176.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  5.0

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 121.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 18.00  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  24.0

---

#### LOW IDLE

Rack travel in mm : 4.50  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.10.93  
Test oil : ISO 4113  
Combination No. : 0 401 846 980  
Injection pump  
Pump designation : PE6P110A72ORS3243  
EP type number : 0 411 816 770

Governor  
Governor design. : RQ300/1100PA412-9  
Governor no. : 0 421 801 696

Cust. part No. : 615.60.08.0277

Customer spec. information  
Customer : SNF  
Motor : WDG15.42/43

## TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.80  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0



---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

Rated speed rpm : 300

Rack travel in mm : 3.50

Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1169  
guide sleeve  
travel mm : 6.45  
Tolerance mm : + 0.10

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.70  
Tolerance mm : + 0.10

Rated speed rpm : 1100  
guide sleeve  
travel mm : 6.00  
Tolerance mm : + 0.10

Rated speed rpm : 364  
guide sleeve  
travel mm : 3.04  
Tolerance mm : + 0.10

Rated speed rpm : 520  
guide sleeve  
travel mm : 6.00

Tolerance mm : + 0.10

Rated speed rpm : 1340  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 600

Rack travel in mm : 16.00  
Tolerance mm : + 0.60

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

CONTROL LEVER

control lever  
position degree : 103.0  
tolerance degree : + 4.0

RATED SPEED  
rack travel mm : 11.80  
Rated speed rpm : 1165  
Tolerance 1/min : + 8

rack travel mm : 4.00  
Rated speed rpm : 1265  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1350

---

## LOW IDLE

control lever  
position degree : 72.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 200  
CRT mm min. :  $>$  5.00

### Testing:

Rated speed rpm : 300  
rack travel mm : 3.50  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 360  
Tolerance 1/min :  $\pm$  20

---

## TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.80  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 12.80  
Tolerance mm :  $\pm$  0.05

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 12.80  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 9.75  
Tolerance mm :  $\pm$  0.10

### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 580  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 310  
rack travel mm : 10.10  
Tolerance mm :  $\pm$  0.05

---

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

## STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 18.00  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 260.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

## LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 3.50  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed

Tolerance  
ca3/1000 strokes : 4.5  
Check tolerance  
ca3/1000s. : 7.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.10.93  
Test oil : ISO 4113  
Combination No. : 0 401 846 981  
Injection pump  
Pump designation : PE6P110A72ORS3243  
EP type number : 0 411 816 770

Governor  
Governor design. : RQV250...1100PA413  
: -7  
Governor no. : 0 421 814 073

Cust. part No. : 615.60.08.0283

Customer spec. information  
Customer : SHF  
Motor : WD615.42/43

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.80  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0

Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5
Rated speed rpm	: 250
Rack travel in mm	: 3.50
Tolerance mm	: + 0.10
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 13.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 6.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.5
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 1177
guide sleeve	
travel mm	: 8.75
Tolerance mm	: + 0.15
Rated speed rpm	: 250
guide sleeve	
travel mm	: 1.13
Tolerance mm	: + 0.20
Rated speed rpm	: 824
guide sleeve	
travel mm	: 5.41
Tolerance mm	: + 0.25
Rated speed rpm	: 356
guide sleeve	
travel mm	: 1.99
Tolerance mm	: + 0.25
Rated speed rpm	: 406

guide sleeve	
travel mm	: 2.42
Tolerance mm	: + 0.25
Rated speed rpm	: 510
guide sleeve	
travel mm	: 3.11
Tolerance mm	: + 0.25
Rated speed rpm	: 1390
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + 0.50

##### GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1260
Rack travel in mm	: 11.80
Tolerance mm	: + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: -
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 155.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5

##### CONTROL LEVER

control lever	
position degree	: 106.0
tolerance degree	: + 4.0
RATED SPEED	
rack travel mm	: 11.80
Rated speed rpm	: 1165
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1255
Tolerance 1/min	: + 15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1350

---

#### LOW IDLE

control lever  
position degree : 72.0  
tolerance degree :  $\pm$  4.0

#### Setting point w/out bumper spring

Rated speed rpm : 150  
CRT mm min. :  $>$  5.50

#### Testing:

Rated speed rpm : 250  
rack travel mm : 3.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 300  
rack travel mm : 2.00

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.80  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 12.80  
Tolerance mm :  $\pm$  0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 12.80  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 9.75  
Tolerance mm :  $\pm$  0.10

#### MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 580  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 310  
rack travel mm : 10.10  
Tolerance mm :  $\pm$  0.05

---

#### Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  170

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  190

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 18.00  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 260.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 3.50  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.03.94  
Test oil : ISO 4113  
Combination No. : 0 401 849 755  
Injection pump  
Pump designation : PE10P110A920/5LS3164  
EP type number : 0 411 819 708

Governor  
Governor design. : RQV300...1150PA549  
: -6  
Governor no. : 0 421 814 029

Cust. part No. :

Customer spec. information  
Customer : KHD  
Motor : BF10L513  
Power KW : 278.0

## TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1-10- 9- 4- 3- 6  
: - 5- 8- 7- 2

Phasing : 0-27-72-99-144-171  
: -216-243-288-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 300  
Rack travel in mm : 7.00  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed



Tolerance  
cm3/1000 strokes : 4.5  
Check tolerance  
cm3/1000s. : 7.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control Lever  
position degree : - 1  
Rated speed rpm : 1290

Rack travel in mm : 9.70  
Tolerance mm :  $\pm$  1.30

---

CONTROL LEVER

control Lever  
position degree : 55.0  
tolerance degree :  $\pm$  4.0

control Lever  
position degree : 123.0  
tolerance degree :  $\pm$  4.0

RATED SPEED  
rack travel mm : 10.70  
Rated speed rpm : 1195  
Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
Rated speed rpm : 1300  
Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1450

---

LOW IDLE

control Lever  
position degree : 90.0  
tolerance degree :  $\pm$  4.0

control Lever  
position degree : 19.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 200  
CRT mm min. :  $>$  10.10

Testing:

Rated speed rpm : 300  
rack travel mm : 7.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 385

---

TORQUE CONTROL

Rated speed rpm : 800  
rack travel mm : 11.75  
Tolerance mm :  $\pm$  0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 11.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.75  
Tolerance mm :  $\pm$  0.20

MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 420  
rack travel mm : 11.00  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 450  
rack travel mm : 11.45  
Tolerance mm :  $\pm$  0.05

---

Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  220

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  240

---

## FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 450  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

## STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

## LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 7.00  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 02.11.93  
Test oil : ISO 4113  
Combination No. : 0 401 878 717  
Injection pump  
Pump designation : PE8P110A320LS3853-1.  
EP type number : 0 411 818 726  
Governor  
Governor design. : RSV400...1000P1A554  
Governor no. : 0 421 833 376  
Cust. part No. : 9273614

Customer spec. information  
Customer : LIEBHERR  
Motor : D 9308 TI  
Power kW : 288.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

F25

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 8- 7- 2- 6  
                  : - 3- 5- 4  
Phasing : 0-45-90-135-180  
          : -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 900  
Rack travel in mm : 14.65  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 197.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

Rated speed rpm : 400

Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900  
Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 197.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

##### CONTROL LEVER

control lever  
position degree : 100.0  
tolerance degree : ± 4.0

RATED SPEED  
rack travel mm : 13.65  
Rated speed rpm : 945  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1000  
Tolerance 1/min : ± 15

rack travel mm : 0.85  
Tolerance mm : ± 0.55  
Rated speed rpm : 1100

rack travel mm : 4.00  
Rated speed rpm : 1030  
Tolerance 1/min : ± 15

##### LOW IDLE

control lever  
position degree : 75.0  
tolerance degree : ± 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 5.70  
Tolerance mm : ± 0.10

##### Testing:

rack travel mm : 2.00  
Rated speed rpm : 520  
Tolerance 1/min : ± 30

##### TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 14.65  
Tolerance mm : ± 0.05

Rated speed rpm : 500  
rack travel mm : 14.65  
Tolerance mm : ± 0.10

Rated speed rpm : 350  
rack travel mm : 16.10  
Tolerance mm : ± 0.30

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1500  
rack travel mm : 14.65  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 600  
Pressure hPa : -  
rack travel mm : 13.65  
Tolerance mm :  $\pm$  0.10

MEASUREMENT

Rated speed rpm : 600  
Pressure hPa : 710  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 780  
rack travel mm : 14.40  
Tolerance mm :  $\pm$  0.05

---

FUEL DELIVERY CHARACTERISTICS

---

rack travel mm : 16.10  
Tolerance mm :  $\pm$  0.30

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 172.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50

Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

LOW IDLE

Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 24.01.94  
Test oil : ISO 4113  
Combination No. : 0 402 046 339  
Injection pump  
Pump designation : PES6P110A720LS524  
EP type number : 0 412 016 073  
Governor  
Governor design. : RQ750PA661-1  
Governor no. : 0 421 801 330

Cust. part No. : 2-7966

Customer spec. information  
Customer : MAN  
Motor : D2866E  
Power kW : 125.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 6- 2- 4- 1- 5-  
: 3  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
Start of delivery mark  
Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 700  
Rack travel in mm : 13.45  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Speed

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

Rated speed rpm : 250

Rack travel in mm : 6.10

Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.5

Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.5

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

#### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750  
rack travel mm : 12.40

Rated speed rpm : 804

Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 950

Rated speed rpm : 751  
rack travel mm : 12.40

Rated speed rpm : 805  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 950

Rated speed rpm : 752  
rack travel mm : 12.40

Rated speed rpm : 806  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 950

Rated speed rpm : 753  
rack travel mm : 12.40

Rated speed rpm : 807  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 950

Rated speed rpm : 754  
rack travel mm : 12.40

Rated speed rpm : 808  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 950

Rated speed rpm : 755  
rack travel mm : 12.40

Rated speed rpm : 809

Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00  
  
rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 950

---

#### LOW IDLE

##### Testing:

Rated speed rpm : 250  
rack travel mm : 6.10  
Tolerance mm :  $\pm$  0.10

---

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.45  
Tolerance mm :  $\pm$  0.05

---

#### STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 100.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

#### LOW IDLE

Rated speed rpm : 250  
  
Rack travel in mm : 6.10  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 24.01.94  
Test oil : ISO 4113

Combination No. : 0 402 046 810

Injection pump  
Pump designation : PES6P120A720LS3229  
EP type number : 0 412 026 733

Governor  
Governor design. : RQ750PA661-4  
Governor no. : 0 421 801 361

Cust. part No. :

Customer spec. information  
Customer : MAN  
Motor : D2866TE  
Power KW : 190.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 6- 2- 4- 1- 5-  
: 3

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.25  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 232.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 4.70

Tolerance mm : + 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 27.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 232.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### RATED SPEED

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 950

#### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750  
rack travel mm : 10.20

Rated speed rpm : 786  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 950

Rated speed rpm : 751  
rack travel mm : 10.20

Rated speed rpm : 787  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 950

Rated speed rpm : 752  
rack travel mm : 10.20

Rated speed rpm : 788  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 950

Rated speed rpm : 753  
rack travel mm : 10.20

Rated speed rpm : 789  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 950

Rated speed rpm : 754  
rack travel mm : 10.20

Rated speed rpm : 790  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50

Rated speed rpm : 950

Rated speed rpm : 755  
rack travel mm : 10.20

Rated speed rpm : 791  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 950

---

#### LOW IDLE

##### Testing:

Rated speed rpm : 300  
rack travel mm : 4.70  
Tolerance mm :  $\pm$  0.20

---

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 11.25  
Tolerance mm :  $\pm$  0.05

---

#### LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 4.70  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 27.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 24.01.94  
Test oil : ISO 4113

Combination No. : 0 402 046 814

Injection pump  
Pump designation : PES6P120A720LS3229  
EP type number : 0 412 026 733

Governor  
Governor design. : RQ750PA945  
Governor no. : 0 421 801 512

Cust. part No. : 2-7970

Customer-spec. information  
Customer : MAN  
Motor : D2866LE  
Power KW : 230.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 683 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 6- 2- 4- 1- 5-  
: 3

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.55  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 282.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm3/1000S. : + 4.0

Spread

Tolerance  
cm3/1000 strokes : 5.0

Check tolerance  
cm3/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 4.40

Tolerance mm : + 0.30

Del. quantity  
cm3/1000 strokes : 27.0

Tolerance  
cm3/1000 strokes : + 3.0

Check tolerance  
cm3/1000S. : + 6.0

Spread

Tolerance  
cm3/1000 strokes : 8.0

Check tolerance  
cm3/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure  
hPa : -

Del. quantity  
cm3/1000 strokes : 282.0

Tolerance  
cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000S. : + 4.0

Spread

Tolerance  
cm3/1000 strokes : 5.0

Check tolerance  
cm3/1000S. : 9.0

#### RATED SPEED

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 950

#### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750  
rack travel mm : 11.50

Rated speed rpm : 791  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 950

Rated speed rpm : 751  
rack travel mm : 11.50

Rated speed rpm : 792  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 950

Rated speed rpm : 752  
rack travel mm : 11.50

Rated speed rpm : 793  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 950

Rated speed rpm : 753  
rack travel mm : 11.50

Rated speed rpm : 794  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 950

Rated speed rpm : 754  
rack travel mm : 11.50

Rated speed rpm : 795  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50

Rated speed rpm : 950

Rated speed rpm : 755  
rack travel mm : 11.50

Rated speed rpm : 796  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 950

---

#### LOW IDLE

##### Testing:

Rated speed rpm : 300  
rack travel mm : 4.40  
Tolerance mm :  $\pm$  0.30

---

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 12.55  
Tolerance mm :  $\pm$  0.05

---

#### LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 4.40  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 27.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.06.93  
Test oil : ISO 4113  
Combination No. : 0 402 046 822  
Injection pump  
Pump designation : PES6P110A320RS3278  
EP type number : 0 412 016 735

Governor  
Governor design. : RQ750PA1000  
Governor no. : 0 421 801 584

Cust. part No. :

Customer spec. information  
Customer : RVI  
Motor : MIDR 060226  
Power KW : 129.0

## TEST BENCH REQUIREMENTS

Inlet line : 1.4

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 0.50

## CRT ZERO POSITION

Rack travel in mm : 14.15  
Tolerance mm : + 0.05

## BASIC SETTING

Rated speed rpm : 700

Rated speed rpm : 275  
 Rack travel in mm : -6.65  
 Tolerance mm :  $\pm 0.15$   
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 15.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm 2.5$   
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm 5.0$   
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 760  
 guide sleeve  
 travel mm : 4.31  
 Tolerance mm :  $\pm 0.10$   
  
 Rated speed rpm : 815  
 guide sleeve  
 travel mm : 10.00  
 Tolerance mm :  $\pm 0.20$   
  
 Rated speed rpm : 870  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm :  $\pm 0.50$

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750  
 rack travel mm : -1.00  
  
 Rated speed rpm : 792  
 Tolerance 1/min :  $\pm 4$   
 rack travel mm : -10.10  
  
 rack travel mm : -13.65  
 Tolerance mm :  $\pm 0.55$   
 Rated speed rpm : 900  
  
  
 Rated speed rpm : 751  
 rack travel mm : -1.00  
  
 Rated speed rpm : 793  
 Tolerance 1/min :  $\pm 4$   
 rack travel mm : -10.10

rack travel mm : -13.65  
 Tolerance mm :  $\pm 0.55$   
 Rated speed rpm : 900

Rated speed rpm : 752  
 rack travel mm : -1.00

Rated speed rpm : 794  
 Tolerance 1/min :  $\pm 4$   
 rack travel mm : -10.10

rack travel mm : -13.65  
 Tolerance mm :  $\pm 0.55$   
 Rated speed rpm : 900

Rated speed rpm : 753  
 rack travel mm : -1.00

Rated speed rpm : 795  
 Tolerance 1/min :  $\pm 4$   
 rack travel mm : -10.10

rack travel mm : -13.65  
 Tolerance mm :  $\pm 0.55$   
 Rated speed rpm : 900

Rated speed rpm : 754  
 rack travel mm : -1.00

Rated speed rpm : 796  
 Tolerance 1/min :  $\pm 4$   
 rack travel mm : -10.10

rack travel mm : -13.65  
 Tolerance mm :  $\pm 0.55$   
 Rated speed rpm : 900

Rated speed rpm : 755  
 rack travel mm : -1.00

Rated speed rpm : 797  
 Tolerance 1/min :  $\pm 4$   
 rack travel mm : -10.10

rack travel mm : -13.65  
 Tolerance mm :  $\pm 0.55$   
 Rated speed rpm : 900

##### LOW IDLE

##### Testing:

Rated speed rpm : 275  
 rack travel mm : -6.65  
 Tolerance mm :  $\pm 0.15$



---

TORQUE CONTROL

Rated speed rpm : 700

---

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : -6.65

Tolerance mm :  $\pm$  0.15

Del. quantity

cm<sup>3</sup>/1000 strokes : 15.5

Tolerance

cm<sup>3</sup>/1000 strokes :  $\pm$  2.5

Check tolerance

cm<sup>3</sup>/1000S. :  $\pm$  5.0

Speed

Tolerance

cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance

cm<sup>3</sup>/1000S. : 7.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.10.93  
Test oil : ISO 4113  
Combination No. : 0 402 046 838  
Injection pump  
Pump designation : PES6P100A320LS3306  
EP type number : 0 412 006 703  
Governor  
Governor design. : RQV350...1200PA1042K  
Governor no. : 0 421 815 320

Cust. part No. : 1819913C91

Customer spec. information  
Customer : NAVISTAR  
Motor : DTA-466  
Power KW : 172.0

## TEST BENCH REQUIREMENTS

Inlet Line : 2.4

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.8

Overflow quantity  
min. l/h : 250  
Tolerance l/h : ± 10.0

Test nozzle holde  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 23.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.00  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 15.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery blocking

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 800

Rack travel in mm : 13.55  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 148.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Rated speed rpm : 350

Rack travel in mm : 6.10  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1440

Rack travel in mm : 10.00  
Tolerance mm : ± 3.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 800  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 148.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

##### CONTROL LEVER

control lever  
position degree : 66.0  
tolerance degree : ± 4.0

control lever  
position degree : 120.0  
tolerance degree : ± 4.0

##### RATED SPEED

rack travel mm : 13.90  
Rated speed rpm : 1265

Tolerance 1/min : ± 15

rack travel mm : 4.00  
Rated speed rpm : 1445

Tolerance 1/min : ± 5

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1550

##### LOW IDLE

control lever  
position degree : 78.0  
tolerance degree : ± 4.0

control lever  
position degree : 21.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 275

CRT mm min. : > 7.60

Testing:

Rated speed rpm : 350  
rack travel mm : 6.10  
Tolerance mm : ± 0.10

Rated speed rpm : 435

---

**TORQUE CONTROL**

Rated speed rpm : 800  
rack travel mm : 13.55  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1200  
rack travel mm : 15.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 600  
rack travel mm : 12.80  
Tolerance mm :  $\pm$  0.20

---

**ANEROID/ALTITUDE  
COMPENSATOR TEST**

**SETTING**

Rated speed rpm : 1200  
Pressure hPa : 1200  
rack travel mm : 14.70  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1200  
Pressure hPa : -  
rack travel mm : 9.60  
Tolerance mm :  $\pm$  0.20

**MEASUREMENT**

Rated speed rpm : 1200  
Pressure hPa : 730  
rack travel mm : 13.40  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 300  
rack travel mm : 10.75  
Tolerance mm :  $\pm$  0.05

---

**Start interlock**

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  280

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  290

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : -

Rated speed rpm : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 180.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

rack travel mm : 12.80  
Tolerance mm :  $\pm$  0.20

---

Aneroid pressure  
hPa : -

Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 71.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  25.0

---

**LOW IDLE**

Rated speed rpm : 350  
Rack travel in mm : 6.10  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 6.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.06.94  
Test oil : ISO 4113  
Combination No. : 0 402 046 847  
Injection pump  
Pump designation : PES6P120A720RS3316  
EP type number : 0 412 026 761  
Governor  
Governor design. : RQV300...1200PA1045  
Governor no. : 0 421 814 043

Cust. part No. :

Customer spec. information  
Customer : IVECO-AIFO  
Motor : 8361 SRM 37  
Power KW : 272.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Tolerance bar : + 0.1  
Test nozzle holder  
assembly : 1 688 901 105  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Prestroke mm : 3.55  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## BASIC SETTING

Rated speed rpm : 300  
Rack travel in mm : 3.30  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1360  
  
Rack travel in mm : 12.90  
Tolerance mm :  $\pm$  1.30

CONTROL LEVER

control lever  
position degree : 115.0  
tolerance degree :  $\pm$  4.0

RATED SPEED  
rack travel mm : 12.90  
Rated speed rpm : 1245  
Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
Rated speed rpm : 1390  
Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1550

LOW IDLE

control lever  
position degree : 61.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 100  
CRT mm min. :  $>$  4.70

Testing:

Rated speed rpm : 300  
rack travel mm : 3.30  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 385  
Tolerance 1/min :  $\pm$  30

TORQUE CONTROL

Rated speed rpm : 750  
rack travel mm : 14.00  
Tolerance mm :  $\pm$  0.10

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 13.95  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 9.50  
Tolerance mm :  $\pm$  0.20

MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 320  
rack travel mm : 10.20  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 440  
rack travel mm : 12.65  
Tolerance mm :  $\pm$  0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 269.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 152.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 305.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 19.0

---

#### LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 3.30  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.09.97  
Test oil : ISO 4113

Combination No. : 0 402 046 880

Injection pump  
Pump designation : PES6P120B320RS3377  
EP type number : 0 412 026 796

Governor  
Governor design. : RQ750PA1304  
Governor no. : 0 421 801 811

Cust. part No. :

Customer-spec. information  
Customer : PERKINS  
Motor : EAGLE2006TWG2  
Power kW : 287.0

## TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Overflow quantity  
min. l/h : 115  
Tolerance l/h : ± 20.0

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.80  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 4- 2- 6- 3-  
: 5

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.90  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 272.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
<hr/>	
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
<hr/>	

Rack travel in mm	: 4.30
Tolerance mm	: + 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	: 30.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 4.0
Check tolerance cm <sup>3</sup> /1000S.	: + 6.0
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 763
guide sleeve travel mm	: 4.57
Tolerance mm	: + 0.15

Rated speed rpm	: 790
guide sleeve travel mm	: 3.50
Tolerance mm	: + 0.25

Rated speed rpm	: 809
guide sleeve travel mm	: 12.00
Tolerance mm	: + 0.25

Rated speed rpm	: 860
guide sleeve travel mm	: 13.50
Tolerance mm	: + 0.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
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Aneroid pressure hPa	: -
Del. quantity cm <sup>3</sup> /1000 strokes	: 272.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

##### CONTROL LEVER

control lever position degree	: 34.0
tolerance degree	: + 4.0

control lever position degree	: 94.0
tolerance degree	: + 4.0

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 765
rack travel mm	: 11.90

Rated speed rpm	: 785
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 900

Rated speed rpm	: 766
rack travel mm	: 11.90

Rated speed rpm	: 786
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 900

Rated speed rpm	: 767
rack travel mm	: 11.90

Rated speed rpm	: 787
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 900

Rated speed rpm : 768  
rack travel mm : 11.90

Rated speed rpm : 788  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 900

Rated speed rpm : 769  
rack travel mm : 11.90

Rated speed rpm : 789  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 900

Rated speed rpm : 770  
rack travel mm : 11.90

Rated speed rpm : 790  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 900

---

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 12.90  
Tolerance mm :  $\pm$  0.05

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.90  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 260.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  25.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  29.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.09.95  
Test oil : ISO 4113

Combination No. : 0 402 076 750

Injection pump  
Pump designation : PES6P120A720RS3311  
EP type number : 0 412 026 760

Governor  
Governor design. : RSV400...1050POA602  
Governor no. : 0 421 833 483

Cust. part No. :

Customer spec. information  
Customer : FNH-GEOTECH  
Motor : P396  
Power KW : 179.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 100  
Tolerance l/h : ± 20.0

Test nozzle holde  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.45  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 158.0

Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

Rated speed rpm	: 400
Rack travel in mm	: 5.20
Tolerance mm	: + 0.10
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 26.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 6.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever	
position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
governor spring	
pre-tension	
click setting x	: 4.25

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1050
Aneroid pressure	
hPa	: 1500

Del. quantity	
cm <sup>3</sup> /1000 strokes	: 158.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

##### CONTROL LEVER

control lever	
position degree	: 96.0
tolerance degree	: + 4.0

##### RATED SPEED

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1320
rack travel mm	: 4.00
Rated speed rpm	: 1160
Tolerance 1/min	: + 15

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 1093
rack travel mm	: 10.45
Rated speed rpm	: 1153
Tolerance 1/min	: + 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1320

Rated speed rpm	: 1094
rack travel mm	: 10.45

Rated speed rpm	: 1154
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1320

Rated speed rpm	: 1095
rack travel mm	: 10.45

Rated speed rpm	: 1155
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Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1320

Rated speed rpm : 1096  
rack travel mm : 10.45

Rated speed rpm : 1156  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1320

Rated speed rpm : 1097  
rack travel mm : 10.45

Rated speed rpm : 1157  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1320

Rated speed rpm : 1098  
rack travel mm : 10.45

Rated speed rpm : 1158  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1320

---

#### LOW IDLE

control lever  
position degree : 73.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 4.70  
Tolerance mm :  $\pm$  0.10

Testing:

Rated speed rpm : 400

rack travel mm : 5.20  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 530  
Tolerance 1/min :  $\pm$  20

---

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 11.45  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 750  
rack travel mm : 12.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 935  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 700  
rack travel mm : 12.50  
Tolerance mm :  $\pm$  0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 9.40  
Tolerance mm :  $\pm$  0.10

#### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 950  
rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 194.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 6.0

---

rack travel mm : 12.00  
Tolerance mm : + 0.10

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 127.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 195.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 15.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 19.0

---

#### LOW IDLE

Rated speed rpm : 400  
Rack travel in mm : 5.20  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.07.95  
Test oil : ISO 4113

Combination No. : 0 402 076 751

Injection pump  
Pump designation : PES6P120A720RS3311  
EP type number : 0 412 026 760

Governor  
Governor design. : RSV400...1050POA603  
Governor no. : 0 421 833 484

Cust. part No. :

Customer-spec. information  
Customer : FWH-GEOTECH  
Motor : P396  
Power KW : 157.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 100  
Tolerance l/h : ± 20.0

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.35



Tolerance mm	: ± 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 132.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spread	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
<hr/>	

Rated speed rpm	: 400
<hr/>	
Rack travel in mm	: 4.50
Tolerance mm	: ± 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 18.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
<hr/>	
governor spring pre-tension click setting x	: 5.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1050
Aneroid pressure hPa	: 1500
Del. quantity cm <sup>3</sup> /1000 strokes	: 132.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

##### CONTROL LEVER

control lever position degree	: 101.0
tolerance degree	: ± 4.0

##### RATED SPEED

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1320
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1160
Tolerance 1/min	: ± 15

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 1093
rack travel mm	: 9.35
<hr/>	
Rated speed rpm	: 1153
Tolerance 1/min	: ± 5
rack travel mm	: 4.00
<hr/>	
rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1320

Rated speed rpm	: 1094
rack travel mm	: 9.35

Rated speed rpm	: 1154
Tolerance 1/min	: ± 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1320

Rated speed rpm	: 1095
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rack travel mm : 9.35  
 Rated speed rpm : 1155  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1320

Rated speed rpm : 1096  
 rack travel mm : 9.35

Rated speed rpm : 1156  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1320

Rated speed rpm : 1097  
 rack travel mm : 9.35

Rated speed rpm : 1157  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1320

Rated speed rpm : 1098  
 rack travel mm : 9.35

Rated speed rpm : 1158  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1320

#### LOW IDLE

control lever  
 position degree : 79.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
 rack travel mm : 5.00  
 Tolerance mm : + 0.10

#### Testing:

Rated speed rpm : 400  
 rack travel mm : 4.50  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 530  
 Tolerance 1/min : + 20

#### TORQUE CONTROL

Rated speed rpm : 1050  
 rack travel mm : 10.35  
 Tolerance mm : + 0.05

Rated speed rpm : 750  
 rack travel mm : 11.20  
 Tolerance mm : + 0.10

Rated speed rpm : 910  
 rack travel mm : 11.00  
 Tolerance mm : + 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
 Pressure hPa : 1500  
 rack travel mm : 11.20  
 Tolerance mm : + 0.10

Rated speed rpm : 500  
 Pressure hPa : -  
 rack travel mm : 9.00  
 Tolerance mm : + 0.10

#### MEASUREMENT

Rated speed rpm : 500  
 Pressure hPa : 900  
 rack travel mm : 10.85  
 Tolerance mm : + 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 1500  
 Rated speed rpm : 750  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 163.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

---

rack travel mm : 11.00  
Tolerance mm : ± 0.10

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 115.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 190.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

#### LOW IDLE

Rated speed rpm : 400  
Rack travel in mm : 4.50  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.11.97  
Test oil : ISO 4113

Combination No. : 0 402 076 758

Injection pump  
Pump designation : PES6P120A720RS3322  
EP type number : 0 412 026 764

Governor  
Governor design. : RSV650...1250P8A566  
Governor no. : 0 421 833 415

Cust. part No. : 87801599

Customer spec. information  
Customer : FNH-GEOTECH  
Power kW : 164.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

H02

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.05  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 131.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm3/1000S. : + 6.0

Spreed

Tolerance  
cm3/1000 strokes : 5.0

Check tolerance  
cm3/1000S. : 9.0

Rated speed rpm : 650

Rack travel in mm : 4.40

Tolerance mm : + 0.10

Del. quantity  
cm3/1000 strokes : 19.0

Tolerance  
cm3/1000 strokes : + 3.0

Check tolerance  
cm3/1000S. : + 6.0

Spreed

Tolerance  
cm3/1000 strokes : 8.0

Check tolerance  
cm3/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

governor spring  
pre-tension  
click setting x : 1.75

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
Aneroid pressure  
hPa : 1000  
Del. quantity  
cm3/1000 strokes : 131.0  
Tolerance  
cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000S. : + 6.0

Spreed

Tolerance  
cm3/1000 strokes : 5.0

Check tolerance  
cm3/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 112.0  
tolerance degree : +- 4.0

##### RATED SPEED

Rated speed rpm : 1330  
Tolerance 1/min : + 15

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1293  
rack travel mm : 9.05

Rated speed rpm : 1325  
Tolerance 1/min : + 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1500

Rated speed rpm : 1294  
rack travel mm : 9.05

Rated speed rpm : 1326  
Tolerance 1/min : + 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1500

Rated speed rpm : 1295  
rack travel mm : 9.05

Rated speed rpm : 1327  
Tolerance 1/min : + 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1500

Rated speed rpm : 1296

rack travel mm : 9.05  
 Rated speed rpm : 1328  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1500

Rated speed rpm : 1297  
 rack travel mm : 9.05

Rated speed rpm : 1329  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1500

Rated speed rpm : 1298  
 rack travel mm : 9.05

Rated speed rpm : 1330  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1500

#### LOW IDLE

control lever  
 position degree : 85.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 650  
 rack travel mm : 3.90  
 Tolerance mm : + 0.10

Testing:

Rated speed rpm : 650  
 rack travel mm : 4.40  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 770  
 Tolerance 1/min : + 50

#### TORQUE CONTROL

H04

Rated speed rpm : 1250  
 rack travel mm : 10.05  
 Tolerance mm : + 0.05

Rated speed rpm : 900  
 rack travel mm : 10.60  
 Tolerance mm : + 0.10

Rated speed rpm : 1160  
 rack travel mm : 10.35  
 Tolerance mm : + 0.10

Rated speed rpm : 700  
 rack travel mm : 10.60  
 Tolerance mm : + 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
 Pressure hPa : 1000  
 rack travel mm : 10.60  
 Tolerance mm : + 0.10

Rated speed rpm : 500  
 Pressure hPa : -  
 rack travel mm : 7.60  
 Tolerance mm : + 0.10

#### MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 560  
 rack travel mm : 9.80  
 Tolerance mm : + 0.05

#### Start interlock

Rated speed rpm : > 100

Check  
 speed 1/min : > 80

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 1000  
 Rated speed rpm : 900  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 144.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

---

rack travel mm : 10.35  
Tolerance mm : ± 0.10

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 215.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

#### LOW IDLE

Rated speed rpm : 650  
  
Rack travel in mm : 4.40  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.11.97  
Test oil : ISO 4113

Combination No. : 0 402 076 759

Injection pump  
Pump designation : PES6P120A720RS3322  
EP type number : 0 412 026 764

Governor  
Governor design. : RSV650...1250P8A567  
Governor no. : 0 421 833 416

Cust. part No. : 87801592

Customer-spec. information  
Customer : FNH-GEOTECH  
Power KW : 201.0

## TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

H06

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery blocking

Check  
tolerance °NW : ± 0.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.65  
Tolerance mm : ± 0.10



Del. quantity  
cm<sup>3</sup>/1000 strokes : 157.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 650

Rack travel in mm : 4.80  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (D) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 3.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

H07

Aneroid pressure  
hPa : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 157.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 109.0  
tolerance degree : ± 4.0

##### RATED SPEED

Rated speed rpm : 1330  
Tolerance 1/min : ± 15

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1293  
rack travel mm : 10.65

Rated speed rpm : 1325  
Tolerance 1/min : ± 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : ± 0.55  
Rated speed rpm : 1500

Rated speed rpm : 1294  
rack travel mm : 10.65

Rated speed rpm : 1326  
Tolerance 1/min : ± 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : ± 0.55  
Rated speed rpm : 1500

Rated speed rpm : 1295  
rack travel mm : 10.65

Rated speed rpm : 1327  
Tolerance 1/min : ± 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1500

Rated speed rpm : 1296  
rack travel mm : 10.65

Rated speed rpm : 1328  
Tolerance 1/min : + 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1500

Rated speed rpm : 1297  
rack travel mm : 10.65

Rated speed rpm : 1329  
Tolerance 1/min : + 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1500

Rated speed rpm : 1298  
rack travel mm : 10.65

Rated speed rpm : 1330  
Tolerance 1/min : + 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1500

#### LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 650  
rack travel mm : 4.30  
Tolerance mm : + 0.10

Testing:

Rated speed rpm : 650  
rack travel mm : 4.80  
Tolerance mm : + 0.10

H08

rack travel mm : 2.00  
Rated speed rpm : 770  
Tolerance 1/min : + 50

#### TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 11.65  
Tolerance mm : + 0.10

Rated speed rpm : 900  
rack travel mm : 12.10  
Tolerance mm : + 0.10

Rated speed rpm : 700  
rack travel mm : 12.15  
Tolerance mm : + 0.15

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 12.10  
Tolerance mm : + 0.10

Rated speed rpm : 500  
Pressure hPa : --  
rack travel mm : 7.90  
Tolerance mm : + 0.10

#### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 490  
rack travel mm : 11.05  
Tolerance mm : + 0.05

#### Start interlock

Rated speed rpm : > 100

Check  
speed 1/min : > 80

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 900  
Del. quantity  
cm3/1000 strokes : 176.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

---

rack travel mm : 12.15  
Tolerance mm :  $\pm$  0.15

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 84.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

#### LOW IDLE

Rated speed rpm : 650  
Rack travel in mm : 4.80  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.11.97  
Test oil : ISO 4113

Combination No. : 0 402 076 762

Injection pump  
Pump designation : PES6P120A72GRS3322  
EP type number : 0 412 026 764

Governor  
Governor design. : RSV650...1250P8A567  
: -1  
Governor no. : 0 421 833 422

Cust. part No. : 87801597

Customer spec. information  
Customer : FNM-GEOTECH  
Power KW : 179.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 105  
Tolerance l/h : ± 20.0

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery blocking

Check  
tolerance °NW : ± 0.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

---

Rack travel in mm : 10.70  
Tolerance mm : + 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 137.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

---

Spread

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Rated speed rpm : 650

Rack travel in mm : 4.60  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

governor spring  
pre-tension  
click setting x : 3.50

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 137.5

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

##### CONTROL LEVER

control lever  
position degree : 111.0  
tolerance degree : + 4.0

##### RATED SPEED

Rated speed rpm : 1330  
Tolerance 1/min : + 15

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1293  
rack travel mm : 9.65

Rated speed rpm : 1325  
Tolerance 1/min : + 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1500

Rated speed rpm : 1294  
rack travel mm : 9.65

Rated speed rpm : 1326  
Tolerance 1/min : + 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1500

Rated speed rpm : 1295  
rack travel mm : 9.65

Rated speed rpm : 1327  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1500

Rated speed rpm : 1296  
rack travel mm : 9.65

Rated speed rpm : 1328  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1500

Rated speed rpm : 1297  
rack travel mm : 9.65

Rated speed rpm : 1329  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1500

Rated speed rpm : 1298  
rack travel mm : 9.65

Rated speed rpm : 1330  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1500

#### LOW IDLE

control lever  
position degree : 80.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 650  
rack travel mm : 4.10  
Tolerance mm :  $\pm$  0.10

Testing:

H12

Rated speed rpm : 650  
rack travel mm : 4.60  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 750  
Tolerance 1/min :  $\pm$  50

#### TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 10.70  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 900  
rack travel mm : 11.10  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1100  
rack travel mm : 10.95  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 700  
rack travel mm : 11.10  
Tolerance mm :  $\pm$  0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.10  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 7.70  
Tolerance mm :  $\pm$  0.10

#### MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 630  
rack travel mm : 10.75  
Tolerance mm :  $\pm$  0.05

#### Start interlock

Rated speed rpm :  $>$  100

Check  
speed 1/min :  $>$  80

---

#### FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

---

rack travel mm : 10.95  
Tolerance mm :  $\pm$  0.10

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 82.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

---

#### STARTING FUEL DELIVERY

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

---

#### LOW IDLE

---

Rated speed rpm : 650  
  
Rack travel in mm : 4.60  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.11.97  
Test oil : ISO 4113

Combination No. : 0 402 076 768

Injection pump  
Pump designation : PES6P120A720RS322  
EP type number : 0 412 026 764

Governor  
Governor design. : RSV650...1250P8A567  
: -2  
Governor no. : 0 421 833 443

Cust. part No. : 87801594

Customer spec. information  
Customer : FNH-GEOTECH  
Motor : 7,5L - DI  
Power KW : 190.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.45  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 153.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0



Check tolerance cm <sup>3</sup> /1000s.	: + 6.0
<hr/>	
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000s.	: 9.0
<hr/>	

Rated speed rpm	: 650
Rack travel in mm	: 4.80
Tolerance mm	: + 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 21.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance cm <sup>3</sup> /1000s.	: + 6.0
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000s.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
governor spring pre-tension click setting x	: 3.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1200
Aneroid pressure hPa	: 1000
Del. quantity cm <sup>3</sup> /1000 strokes	: 153.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0

Check tolerance cm <sup>3</sup> /1000s.	: + 6.0
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000s.	: 9.0

##### CONTROL LEVER

control lever position degree	: 109.0
tolerance degree	: + 4.0

##### RATED SPEED

Rated speed rpm	: 1300
Tolerance 1/min	: + 15

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 1263
rack travel mm	: 10.45

Rated speed rpm	: 1295
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1500

Rated speed rpm	: 1264
rack travel mm	: 10.45

Rated speed rpm	: 1296
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1500

Rated speed rpm	: 1265
rack travel mm	: 10.45

Rated speed rpm	: 1297
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1500

Rated speed rpm	: 1266
-----------------	--------

rack travel mm : 10.45  
 Rated speed rpm : 1298  
 Tolerance 1/min :  $\pm 5$   
 rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm :  $\pm 0.55$   
 Rated speed rpm : 1500

Rated speed rpm : 1267  
 rack travel mm : 10.45

Rated speed rpm : 1299  
 Tolerance 1/min :  $\pm 5$   
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm :  $\pm 0.55$   
 Rated speed rpm : 1500

Rated speed rpm : 1268  
 rack travel mm : 10.45

Rated speed rpm : 1300  
 Tolerance 1/min :  $\pm 5$   
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm :  $\pm 0.55$   
 Rated speed rpm : 1500

#### LOW IDLE

control lever  
 position degree : 80.0  
 tolerance degree :  $\pm 4.0$

#### Setting point w/out bumper spring

Rated speed rpm : 650  
 rack travel mm : 4.30  
 Tolerance mm :  $\pm 0.10$

#### Testing:

Rated speed rpm : 650  
 rack travel mm : 4.80  
 Tolerance mm :  $\pm 0.10$

rack travel mm : 2.00  
 Rated speed rpm : 770  
 Tolerance 1/min :  $\pm 50$

#### TORQUE CONTROL

Rated speed rpm : 1200  
 rack travel mm : 11.45  
 Tolerance mm :  $\pm 0.05$

Rated speed rpm : 900  
 rack travel mm : 11.80  
 Tolerance mm :  $\pm 0.10$

Rated speed rpm : 1100  
 rack travel mm : 11.60  
 Tolerance mm :  $\pm 0.10$

Rated speed rpm : 700  
 rack travel mm : 11.90  
 Tolerance mm :  $\pm 0.10$

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
 Pressure hPa : 1000  
 rack travel mm : 11.90  
 Tolerance mm :  $\pm 0.10$

Rated speed rpm : 500  
 Pressure hPa : -  
 rack travel mm : 7.90  
 Tolerance mm :  $\pm 0.10$

#### MEASUREMENT

Rated speed rpm : 500  
 Pressure hPa : 595  
 rack travel mm : 11.45  
 Tolerance mm :  $\pm 0.05$

#### Start interlock

Rated speed rpm :  $> 100$   
 Check  
 speed 1/min :  $> 80$

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 1000  
 Rated speed rpm : 900  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 170.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm 3.0$

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

---

rack travel mm : 11.60  
Tolerance mm :  $\pm$  0.10

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 215.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

#### LOW IDLE

Rated speed rpm : 650  
Rack travel in mm : 4.80  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.11.97  
Test oil : ISO 4113

Combination No. : 0 402 076 771

Injection pump  
Pump designation : PES6P120A720RS3340  
EP type number : 0 412 026 773

Governor  
Governor design. : RSV650...1100P8A566  
: -1  
Governor no. : 0 421 333 452

Cust. part No. : 87801591

Customer spec. information  
Customer : FMT-GEOTECH  
Power KW : 201.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.60  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Start of delivery blocking

Check  
tolerance °NW : + 0.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 12.35

Tolerance mm	: ± 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 183.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
<hr/>	
Spreed	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
<hr/>	

Rated speed rpm	: 650
<hr/>	
Rack travel in mm	: 4.60
Tolerance mm	: ± 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 23.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
<hr/>	
Spreed	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
<hr/>	
governor spring pre-tension	
click setting x	: 2.50

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1075
Aneroid pressure hPa	: 1600
Del. quantity cm <sup>3</sup> /1000 strokes	: 183.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
<hr/>	
Spreed	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

#### CONTROL LEVER

control lever position degree	: 97.0
tolerance degree	: ± 4.0

#### RATED SPEED

rack travel mm	: 4.00
Rated speed rpm	: 1165
Tolerance 1/min	: ± 15

#### ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 1121
rack travel mm	: 11.30
<hr/>	
Rated speed rpm	: 1152
Tolerance 1/min	: ± 5
rack travel mm	: 4.00
<hr/>	
rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1350

Rated speed rpm	: 1122
rack travel mm	: 11.30

Rated speed rpm	: 1153
Tolerance 1/min	: ± 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1350

Rated speed rpm	: 1123
rack travel mm	: 11.30

Rated speed rpm	: 1154
Tolerance 1/min	: ± 5

rack travel mm : 4.00  
rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1350

Rated speed rpm : 1124  
rack travel mm : 11.30

Rated speed rpm : 1155  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1350

Rated speed rpm : 1125  
rack travel mm : 11.30

Rated speed rpm : 1156  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1350

Rated speed rpm : 1126  
rack travel mm : 11.30

Rated speed rpm : 1157  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1350

#### LOW IDLE

control lever  
position degree : 78.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 650  
rack travel mm : 4.10  
Tolerance mm :  $\pm$  0.10

Testing:

Rated speed rpm : 650  
rack travel mm : 4.60

H2O

Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 750

#### TORQUE CONTROL

Rated speed rpm : 1075  
rack travel mm : 12.35  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 13.15  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 700  
rack travel mm : 13.20  
Tolerance mm :  $\pm$  0.15

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1600  
rack travel mm : 13.20  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 7.60  
Tolerance mm :  $\pm$  0.15

#### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 1060  
rack travel mm : 11.80  
Tolerance mm :  $\pm$  0.10

#### Start interlock

Rated speed rpm :  $>$  100

Check  
speed 1/min :  $>$  80

#### FUEL DELIVERY CHARACTERISTICS

#### Aneroid pressure

hPa : 1600  
Rated speed rpm : 800

Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

rack travel mm : 13.20  
Tolerance mm : ± 0.15

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

#### LOW IDLE

Rated speed rpm : 650  
Rack travel in mm : 4.60  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.11.97

Test oil : ISO 4113

Combination No. : 0 402 076 787

## Injection pump

Pump designation : PES6P120A720RS3340

EP type number : 0 412 026 773

## Governor

Governor design. : RSV400...1050POA602

Governor no. : 0 421 833 483

Cust. part No. : 87801595

## Customer spec. information

Customer : FNH-GEOTECH

Motor : EPD40B

Power KW : 176.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

## Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

## Overflow quantity

min. l/h : 100

Tolerance l/h : ± 20.0

## Test nozzle holder assembly

: 1 688 901 103

## Opening pressure

bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

## REMARKS

## (A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 3.60

Tolerance mm : ± 0.05

## Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.50

## Check

tolerance °NW : ± 0.75

## Start of delivery blocking

## Check

tolerance °NW : ± 0.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1050



---

Rack travel in mm : 11.25  
Tolerance mm : + 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 158.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

---

Speed

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Rated speed rpm : 400

Rack travel in mm : 5.00  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

governor spring  
pre-tension  
click setting x : 4.25

---

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure  
hPa : 1600

Del. quantity  
cm<sup>3</sup>/1000 strokes : 158.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

#### CONTROL LEVER

control lever  
position degree : 94.0

#### RATED SPEED

rack travel mm : 0.85  
Tolerance mm : + 0.55

Rated speed rpm : 1320

rack travel mm : 4.00

Rated speed rpm : 1165

Tolerance 1/min : + 15

#### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1093  
rack travel mm : 10.20

Rated speed rpm : 1148  
Tolerance 1/min : + 5

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1320

Rated speed rpm : 1094  
rack travel mm : 10.20

Rated speed rpm : 1149  
Tolerance 1/min : + 5

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1320

Rated speed rpm : 1095  
rack travel mm : 10.20

Rated speed rpm : 1150  
Tolerance 1/min :  $\pm 5$   
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm 0.55$   
Rated speed rpm : 1320

Rated speed rpm : 1096  
rack travel mm : 10.20

Rated speed rpm : 1151  
Tolerance 1/min :  $\pm 5$   
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm 0.55$   
Rated speed rpm : 1320

Rated speed rpm : 1097  
rack travel mm : 10.20

Rated speed rpm : 1152  
Tolerance 1/min :  $\pm 5$   
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm 0.55$   
Rated speed rpm : 1320

Rated speed rpm : 1098  
rack travel mm : 10.20

Rated speed rpm : 1153  
Tolerance 1/min :  $\pm 5$   
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm 0.55$   
Rated speed rpm : 1320

---

#### LOW IDLE

control lever  
position degree : 73.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 4.50

H24

Tolerance mm :  $\pm 0.10$

#### Testing:

Rated speed rpm : 400  
rack travel mm : 5.00  
Tolerance mm :  $\pm 0.10$

rack travel mm : 2.00  
Rated speed rpm : 535  
Tolerance 1/min :  $\pm 50$

---

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 11.25  
Tolerance mm :  $\pm 0.05$

Rated speed rpm : 700  
rack travel mm : 12.40  
Tolerance mm :  $\pm 0.05$

Rated speed rpm : 600  
rack travel mm : 12.50  
Tolerance mm :  $\pm 0.15$

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1600  
rack travel mm : 12.50  
Tolerance mm :  $\pm 0.10$

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 8.10  
Tolerance mm :  $\pm 0.10$

#### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 980  
rack travel mm : 11.40  
Tolerance mm :  $\pm 0.05$

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 700

Del. quantity  
cm<sup>3</sup>/1000 strokes : 196.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

rack travel mm : 12.50  
Tolerance mm : ± 0.15

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 94.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

#### LOW IDLE

Rated speed rpm : 400  
Rack travel in mm : 5.00  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.11.97  
Test oil : ISO 4113

Combination No. : 0 402 076 788

Injection pump  
Pump designation : PES6P120A720RS3340  
EP type number : 0 412 026 773

Governor  
Governor design. : RSV400...1050POA603  
Governor no. : 0 421 833 484

Cust. part No. : 87801600

Customer spec. information  
Customer : FMH-GEOTECH  
Motor : EP 040 B  
Power KW : 154.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 100  
Tolerance l/h : ± 20.0

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Start of delivery blocking

Check  
tolerance °NW : ± 0.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1050

---

Rack travel in mm : 10.45  
Tolerance mm :  $\pm$  0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 136.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

---

Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  6.0

---

Speed

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

---

Rated speed rpm : 400

Rack travel in mm : 4.50  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0

Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm :  $\pm$  0.20

governor spring  
pre-tension  
click setting x : 5.00

H27

---

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 136.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

---

#### CONTROL LEVER

control lever  
position degree : 76.0  
tolerance degree :  $\pm$  4.0

#### RATED SPEED

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55

Rated speed rpm : 1320

rack travel mm : 4.00  
Rated speed rpm : 1155

Tolerance 1/min :  $\pm$  15

#### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1093  
rack travel mm : 9.45

Rated speed rpm : 1153  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1320

Rated speed rpm : 1094  
rack travel mm : 9.45

Rated speed rpm : 1154  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55

Rated speed rpm : 1320

Rated speed rpm : 1095  
rack travel mm : 9.45

Rated speed rpm : 1155  
Tolerance 1/min :  $\pm 5$   
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm 0.55$   
Rated speed rpm : 1320

Rated speed rpm : 1096  
rack travel mm : 9.45

Rated speed rpm : 1156  
Tolerance 1/min :  $\pm 5$   
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm 0.55$   
Rated speed rpm : 1320

Rated speed rpm : 1097  
rack travel mm : 9.45

Rated speed rpm : 1157  
Tolerance 1/min :  $\pm 5$   
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm 0.55$   
Rated speed rpm : 1320

Rated speed rpm : 1098  
rack travel mm : 9.45

Rated speed rpm : 1158  
Tolerance 1/min :  $\pm 5$   
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm 0.55$   
Rated speed rpm : 1320

#### LOW IDLE

control lever  
position degree : 97.0  
tolerance degree :  $\pm 4.0$

Setting point w/out bumper spring

H28

Rated speed rpm : 400  
rack travel mm : 5.00  
Tolerance mm :  $\pm 0.10$

#### Testing:

Rated speed rpm : 400  
rack travel mm : 4.50  
Tolerance mm :  $\pm 0.10$

rack travel mm : 2.00  
Rated speed rpm : 535  
Tolerance 1/min :  $\pm 50$

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 10.45  
Tolerance mm :  $\pm 0.05$

Rated speed rpm : 750  
rack travel mm : 11.30  
Tolerance mm :  $\pm 0.10$

Rated speed rpm : 600  
rack travel mm : 11.35  
Tolerance mm :  $\pm 0.15$

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.30  
Tolerance mm :  $\pm 0.10$

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 8.10  
Tolerance mm :  $\pm 0.10$

#### MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 900  
rack travel mm : 10.80  
Tolerance mm :  $\pm 0.10$

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500

Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

rack travel mm : 11.35  
Tolerance mm : ± 0.15

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 92.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

#### STARTING FUEL DELIVERY

Check hydraulic start locking and  
unlocking device with 500...1000 hPa.

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

#### LOW IDLE

Rated speed rpm : 400  
Rack travel in mm : 4.50  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.11.97  
Test oil : ISO 4113  
  
Combination No. : 0 402 076 804  
  
Injection pump  
Pump designation : PES6P120A72ORS3340  
EP type number : 0 412 026 773  
  
Governor  
Governor design. : RSV650...1100P8A566  
: -2  
Governor no. : 0 421 833 559

Cust. part No. : 87801598

Customer-spec. information  
Customer : NH  
Power KW : 162.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 086  
  
Inlet press. bar : 1.5  
  
Test nozzle holder  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 089  
  
Outside diameter : 8.0

J02

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Start of delivery blocking

Check  
tolerance °NW : ± 0.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 10.80



Tolerance mm	: ± 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 143.5
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
<hr/>	
Speed	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
<hr/>	

Rated speed rpm	: 650
<hr/>	
Rack travel in mm	: 4.70
Tolerance mm	: ± 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 23.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
Speed	
Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
<hr/>	
governor spring pre-tension click setting x	: 3.75

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1025
Aneroid pressure hPa	: 1600
Del. quantity cm <sup>3</sup> /1000 strokes	: 143.5
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
Speed	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

##### CONTROL LEVER

control lever position degree	: 95.0
tolerance degree	: ± 4.0

##### RATED SPEED

rack travel mm	: 4.00
Rated speed rpm	: 1105
Tolerance 1/min	: ± 15

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 1072
rack travel mm	: 9.80
<hr/>	
Rated speed rpm	: 1100
Tolerance 1/min	: ± 5
rack travel mm	: 4.00
<hr/>	
rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1350

Rated speed rpm	: 1073
rack travel mm	: 9.80

Rated speed rpm	: 1101
Tolerance 1/min	: ± 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1350

Rated speed rpm	: 1074
rack travel mm	: 9.80

Rated speed rpm	: 1102
Tolerance 1/min	: ± 5

rack travel mm : 4.00  
rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1350

Rated speed rpm : 1075  
rack travel mm : 9.80

Rated speed rpm : 1103  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1350

Rated speed rpm : 1076  
rack travel mm : 9.80

Rated speed rpm : 1104  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1350

Rated speed rpm : 1077  
rack travel mm : 9.80

Rated speed rpm : 1105  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1350

---

#### LOW IDLE

control lever  
position degree : 76.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 650  
rack travel mm : 4.20  
Tolerance mm :  $\pm$  0.10

Testing:

Rated speed rpm : 650  
rack travel mm : 4.70

J04

Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 760

---

#### TORQUE CONTROL

Rated speed rpm : 1025  
rack travel mm : 10.80  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 11.55  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 700  
rack travel mm : 11.60  
Tolerance mm :  $\pm$  0.15

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1600  
rack travel mm : 11.55  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 7.60  
Tolerance mm :  $\pm$  0.15

#### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 840  
rack travel mm : 10.70  
Tolerance mm :  $\pm$  0.10

---

#### Start interlock

Rated speed rpm :  $>$  100

Check  
speed 1/min :  $>$  80

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 800

Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

rack travel mm : 11.60  
Tolerance mm :  $\pm$  0.15

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

#### LOW IDLE

Rated speed rpm : 650  
Rack travel in mm : 4.70  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.05.97  
Test oil : ISO 4113  
Combination No. : 0 402 076 807  
Injection pump  
Pump designation : PES6P120A720RS3378  
EP type number : 0 412 026 799  
Governor  
Governor design. : RSV450...1050P5A647  
Governor no. : 0 421 833 564

Cust. part No. :

Customer spec. information  
Customer : IVECO-FIAT  
Motor : 8365.26.532  
Power kW : 117.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Overflow quantity  
min. l/h : 260  
Tolerance l/h : ± 20.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 8.55  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 115.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 450

Rack travel in mm : 4.60

Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

governor spring  
pre-tension  
click setting x : 2.50

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 115.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever  
position degree : 113.0

#### RATED SPEED

rack travel mm : 7.40  
Rated speed rpm : 1095

Tolerance 1/min : + 5  
Check

speed 1/min : + 10

rack travel mm : 4.00

Rated speed rpm : 1125

Tolerance 1/min : + 15

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1400

rack travel mm : 4.00

Rated speed rpm : 1130

Tolerance 1/min : + 15

Check

speed 1/min : + 20

#### LOW IDLE

control lever  
position degree : 91.0

Setting point w/out bumper spring

Rated speed rpm : 450  
rack travel mm : 4.10  
Tolerance mm : + 0.10

#### Testing:

Rated speed rpm : 450  
rack travel mm : 4.60  
Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 570

Tolerance 1/min : + 50

---

**TORQUE CONTROL**

Rated speed rpm : 1050  
rack travel mm : 8.55  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 8.60  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 320  
rack travel mm : 9.10  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 450  
rack travel mm : 8.60  
Tolerance mm :  $\pm$  0.20

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : -

Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 106.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

rack travel mm : 9.10  
Tolerance mm :  $\pm$  0.20

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
rack travel mm : 9.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

**LOW IDLE**

Rated speed rpm : 450

Rack travel in mm : 4.60  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.11.97  
Test oil : ISO 4113  
  
Combination No. : 0 402 076 810  
  
Injection pump  
Pump designation : PES6P120A720RS3340  
EP type number : 0 412 026 773  
  
Governor  
Governor design. : RSV650...1050P8A566  
: -4  
Governor no. : 0 421 833 583  
  
Cust. part No. : 87801590

Customer-spec. information  
Customer : NH  
Motor : EP 040 B  
Power KW : 198.0

## TEST BENCH REQUIREMENTS

Inlet Line : 4.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 086  
  
Inlet press. bar : 1.5  
  
Test nozzle holder  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 089  
  
Outside diameter : 8.0

J09

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery blocking

Check  
tolerance °NW : ± 0.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 12.35

Tolerance mm	: + 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 183.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: + 6.0
<hr/>	
Spread	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
<hr/>	

Rated speed rpm	: 650
<hr/>	
Rack travel in mm	: 4.60
Tolerance mm	: + 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 23.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance cm <sup>3</sup> /1000S.	: + 6.0
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
<hr/>	
governor spring pre-tension click setting x	: 2.50

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1025
Aneroid pressure hPa	: 1600
Del. quantity cm <sup>3</sup> /1000 strokes	: 183.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 6.0
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

#### CONTROL LEVER

control lever position degree	: 95.0
----------------------------------	--------

#### ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 1067
rack travel mm	: 11.30
<hr/>	
Rated speed rpm	: 1097
Tolerance 1/min	: + 5
rack travel mm	: 4.00
<hr/>	
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300

Rated speed rpm	: 1068
rack travel mm	: 11.30

Rated speed rpm	: 1098
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300

Rated speed rpm	: 1069
rack travel mm	: 11.30

Rated speed rpm	: 1099
Tolerance 1/min	: + 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300



Rated speed rpm : 1070  
rack travel mm : 11.30

Rated speed rpm : 1100  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1300

Rated speed rpm : 1071  
rack travel mm : 11.30

Rated speed rpm : 1101  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1300

Rated speed rpm : 1072  
rack travel mm : 11.30

Rated speed rpm : 1102  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1300

---

#### LOW IDLE

control lever  
position degree : 76.0

Setting point w/out bumper spring

Rated speed rpm : 650  
rack travel mm : 4.10  
Tolerance mm :  $\pm$  0.10

#### Testing:

Rated speed rpm : 650  
rack travel mm : 4.60  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 750

---

#### TORQUE CONTROL

J11

Rated speed rpm : 1025  
rack travel mm : 12.35  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 750  
rack travel mm : 13.05  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 650  
rack travel mm : 13.10  
Tolerance mm :  $\pm$  0.15

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1600  
rack travel mm : 13.10  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 7.80  
Tolerance mm :  $\pm$  0.15

#### MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 980  
rack travel mm : 11.60  
Tolerance mm :  $\pm$  0.10

---

#### Start interlock

Rated speed rpm :  $>$  100

Check  
speed 1/min :  $>$  80

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

rack travel mm : 13.10  
Tolerance mm :  $\pm$  0.15

---

Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 86.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  4.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  19.0

---

LOW IDLE

Rated speed rpm : 650  
  
Rack travel in mm : 4.60  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.11.97

Test oil : ISO 4113

Combination No. : 0 402 076 816

## Injection pump

Pump designation : PES6P12CA72ORS3340

EP type number : 0 412 026 773

## Governor

Governor design. : RSV650...1100P8A566

: -5

Governor no. : 0 421 833 601

Cust. part No. : 87801596

## Customer spec. information

Customer : NH

Power KW : 177.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

## Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

## Overflow quantity

min. L/h : 120

Tolerance L/h : ± 20.0

## Test nozzle holder

assembly : 1 688 901 103

## Opening pressure

bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

## REMARKS

## (A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 3.60

Tolerance mm : ± 0.05

## Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.50

## Check

tolerance °NW : ± 0.75

## Start of delivery blocking

## Check

tolerance °NW : ± 0.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 11.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 650

Rack travel in mm : 4.60  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

governor spring  
pre-tension  
click setting x : 3.75

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1025  
Aneroid pressure  
hPa : 1600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever  
position degree : 97.0

#### RATED SPEED

rack travel mm : 4.00  
Rated speed rpm : 1100  
Tolerance 1/min : + 15

#### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1067  
rack travel mm : 10.40

Rated speed rpm : 1097  
Tolerance 1/min : + 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1250

Rated speed rpm : 1068  
rack travel mm : 10.40

Rated speed rpm : 1098  
Tolerance 1/min : + 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1250

Rated speed rpm : 1069  
rack travel mm : 10.40

Rated speed rpm : 1099  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1250

Rated speed rpm : 1070  
rack travel mm : 10.40

Rated speed rpm : 1100  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1250

Rated speed rpm : 1071  
rack travel mm : 10.40

Rated speed rpm : 1101  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1250

Rated speed rpm : 1072  
rack travel mm : 10.40

Rated speed rpm : 1102  
Tolerance 1/min :  $\pm$  5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1250

---

#### LOW IDLE

control lever  
position degree : 79.0

Setting point w/out bumper spring

Rated speed rpm : 650  
rack travel mm : 4.10  
Tolerance mm :  $\pm$  0.10

Testing:

J15

Rated speed rpm : 650  
rack travel mm : 4.60  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 700

---

#### TORQUE CONTROL

Rated speed rpm : 1025  
rack travel mm : 11.45  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 12.30  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 750  
rack travel mm : 12.35  
Tolerance mm :  $\pm$  0.15

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1600  
rack travel mm : 12.30  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 7.80  
Tolerance mm :  $\pm$  0.15

#### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 1050  
rack travel mm : 11.50  
Tolerance mm :  $\pm$  0.10

---

#### Start interlock

Rated speed rpm : > 100

Check  
speed 1/min : > 80

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600

Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 185.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

rack travel mm : 12.35  
Tolerance mm :  $\pm$  0.15

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 86.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

#### LOW IDLE

Rated speed rpm : 650  
Rack travel in mm : 4.60  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.03.98  
Test oil : ISO 4113  
Combination No. : 0 402 086 702  
Injection pump  
Pump designation : PES6P100B321RS3388  
EP type number : 0 412 006 714  
Governor  
Governor design. : RSV400...1125POA674  
Governor no. : 0 421 833 592

Cust. part No. : 51.11103-7564

## Customer spec. information

Customer : MAN  
Motor : D0826 LE531  
Power KW : 191.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 150  
Tolerance l/h : ± 10.0

Test nozzle holde  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.30  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 13.50  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Start of delivery blocking  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 925

Rack travel in mm : 14.10  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 174.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Rated speed rpm : 400

Rack travel in mm : 4.90  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

governor spring  
pre-tension  
click setting x : 5.00

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 925  
Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 174.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

#### CONTROL LEVER

control lever  
position degree : 104.0  
tolerance degree : + 4.0

#### RATED SPEED

rack travel mm : 12.60  
Rated speed rpm : 1175

Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1265

Tolerance 1/min : + 15

rack travel mm : 0.85  
Tolerance mm : + 0.55

Rated speed rpm : 1400

rack travel mm : 4.00  
Rated speed rpm : 1270

Tolerance 1/min : + 15

#### LOW IDLE

control lever  
position degree : 80.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 4.40  
Tolerance mm : + 0.10



## Testing:

Rated speed rpm : 400  
rack travel mm : 4.90  
Tolerance mm :  $\pm 0.10$

rack travel mm : 2.00  
Rated speed rpm : 500  
Tolerance 1/min :  $\pm 30$

### TORQUE CONTROL

Rated speed rpm : 925  
rack travel mm : 14.10  
Tolerance mm :  $\pm 0.05$

Rated speed rpm : 1125  
rack travel mm : 13.60  
Tolerance mm :  $\pm 0.05$

Rated speed rpm : 700  
rack travel mm : 14.15  
Tolerance mm :  $\pm 0.10$

Rated speed rpm : 1025  
rack travel mm : 13.95  
Tolerance mm :  $\pm 0.10$

### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 14.10  
Tolerance mm :  $\pm 0.15$

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 9.45  
Tolerance mm :  $\pm 0.15$

#### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 150  
rack travel mm : 9.75  
Tolerance mm :  $\pm 0.05$

Pressure hPa : 800  
rack travel mm : 13.05  
Tolerance mm :  $\pm 0.15$

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 1125  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 161.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm 3.0$   
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm 6.0$

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
rack travel mm : 14.15  
Tolerance mm :  $\pm 0.10$   
Del. quantity  
cm<sup>3</sup>/1000 strokes : 187.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm 3.0$   
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm 6.0$

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 91.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm 1.0$   
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm 4.0$

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 9.45  
Tolerance mm :  $\pm 0.45$   
Del. quantity  
cm<sup>3</sup>/1000 strokes : 112.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm 10.0$   
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm 14.0$

### LOW IDLE

Rated speed rpm : 400  
Rack travel in mm : 4.90  
Tolerance mm :  $\pm 0.10$

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.03.98  
Test oil : ISO 4113  
Combination No. : 0 402 086 704  
Injection pump  
Pump designation : PES6P100B321RS3388  
EP type number : 0 412 006 714  
Governor  
Governor design. : RSV400...1125P0A693  
Governor no. : 0 421 833 616

Cust. part No. : 51.11103-7607

## Customer spec. information

Customer : MAN  
Motor : D0826 LE531  
Power KW : 191.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 150  
Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.30  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 13.50  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery blocking

Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 925

Rack travel in mm : 14.10  
Tolerance mm :  $\pm$  0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 174.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Rated speed rpm : 400

Rack travel in mm : 4.90  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 3

governor spring  
pre-tension  
click setting x : 5.00

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 925

Aneroid pressure  
hPa : 1500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 174.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

RATED SPEED  
rack travel mm : 12.60  
Rated speed rpm : 1175  
Tolerance 1/min :  $\pm$  5

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 1400

rack travel mm : 4.00  
Rated speed rpm : 1270  
Tolerance 1/min :  $\pm$  15

#### LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 4.40  
Tolerance mm :  $\pm$  0.10

#### Testing:

Rated speed rpm : 400  
rack travel mm : 4.90  
Tolerance mm :  $\pm$  0.10

#### TORQUE CONTROL

Rated speed rpm : 925  
rack travel mm : 14.10  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1125  
rack travel mm : 13.60  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 14.15  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1025

rack travel mm : 13.95  
Tolerance mm : + 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 14.10  
Tolerance mm : + 0.15

Rated speed rpm : 500  
Pressure hPa : --  
rack travel mm : 9.45  
Tolerance mm : + 0.15

##### MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 150  
rack travel mm : 9.75  
Tolerance mm : + 0.05

Pressure hPa : 800  
rack travel mm : 13.05  
Tolerance mm : + 0.15

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 1125  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 161.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

---

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
rack travel mm : 14.15  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 187.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : --  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 91.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 9.45  
Tolerance mm : + 0.45  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 112.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 14.0

---

#### LOW IDLE

Rated speed rpm : 400  
  
Rack travel in mm : 4.90  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.03.98  
Test oil : ISO 4113

Combination No. : 0 402 086 705

Injection pump  
Pump designation : PES6P1008321RS3388  
EP type number : 0 412 006 714

Governor  
Governor design. : RSV400...1125POA694  
Governor no. : 0 421 833 617

Cust. part No. : 51.10100-7377

## Customer spec. information

Customer : MAN  
Motor : D0826 LE527  
Power kW : 169.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 150  
Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.30  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 13.50  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery blocking

Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 925

Rack travel in mm : 13.90  
Tolerance mm :  $\pm$  0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 169.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

Speed

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

Rated speed rpm : 400

Rack travel in mm : 4.80  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 3

governor spring  
pre-tension  
click setting x : 5.50

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 925

Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 169.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

##### RATED SPEED

rack travel mm : 12.10

Rated speed rpm : 1175

Tolerance 1/min :  $\pm$  5

rack travel mm : 0.85

Tolerance mm :  $\pm$  0.55

Rated speed rpm : 1400

---

##### LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 400

rack travel mm : 4.30

Tolerance mm :  $\pm$  0.10

##### Testing:

Rated speed rpm : 400

rack travel mm : 4.80

Tolerance mm :  $\pm$  0.10

---

##### TORQUE CONTROL

Rated speed rpm : 925

rack travel mm : 13.90

Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1125

rack travel mm : 13.10

Tolerance mm :  $\pm$  0.10

Rated speed rpm : 700

rack travel mm : 14.00

Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1000

rack travel mm : 13.70

Tolerance mm :  $\pm$  0.10

---

# ANEROID/ALTITUDE COMPENSATOR TEST

## SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 14.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 9.50  
Tolerance mm :  $\pm$  0.20

## MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 150  
rack travel mm : 10.00  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 800  
rack travel mm : 13.20  
Tolerance mm :  $\pm$  0.15

---

## FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 1125  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 146.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

---

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
rack travel mm : 14.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 180.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 90.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

## STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 9.50  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 112.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

## LOW IDLE

Rated speed rpm : 400  
  
Rack travel in mm : 4.80  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.09.94  
Test oil : ISO 4113

Combination No. : 0 402 638 807

Injection pump  
Pump designation : PE8P120A120LS7127  
EP type number : 0 412 628 817

Governor  
Governor design. : RQ300/1100PA134-3  
Governor no. : 0 421 801 655

Cust. part No. :

Customer spec. information  
Customer : SNF  
Motor : WD 815.72/73

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.15  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 8.50  
Tolerance mm : ± 0.50

Firing order : 1- 5- 4- 8- 6  
                  : - 3- 7- 2

Phasing : 0-45-90-135-180  
          : -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °MM : ± 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Del. quantity  
cm<sup>3</sup>/1000 strokes : 134.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.60  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1156  
guide sleeve  
travel mm : 6.44  
Tolerance mm : ± 0.10

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.55  
Tolerance mm : ± 0.10

Rated speed rpm : 1100  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 427  
guide sleeve  
travel mm : 4.88  
Tolerance mm : ± 0.10

Rated speed rpm : 510  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1310  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 600

Rack travel in mm : 16.00  
Tolerance mm : ± 0.60

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 500  
Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 134.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 109.0  
tolerance degree : ± 4.0

RATED SPEED  
rack travel mm : 13.30  
Rated speed rpm : 1153  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1245  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1350

##### LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : ± 4.0

#### Setting point w/out bumper spring

Rated speed rpm : 200  
CRT mm min. : > 8.00

#### Testing:

Rated speed rpm : 300  
rack travel mm : 6.60  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 420  
Tolerance 1/min :  $\pm$  20

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 14.55  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 500  
rack travel mm : 14.55  
Tolerance mm :  $\pm$  0.15

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 14.55  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.15  
Tolerance mm :  $\pm$  0.05

#### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 490  
rack travel mm : 11.25  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 790  
rack travel mm : 13.25  
Tolerance mm :  $\pm$  0.05

#### FUEL DELIVERY CHARACTERISTICS

K01

#### Aneroid pressure

hPa : 1500  
Rated speed rpm : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 214.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 12.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

#### Aneroid pressure

hPa : 1500  
Rated speed rpm : 500  
rack travel mm : 14.55  
Tolerance mm :  $\pm$  0.15  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 238.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 16.00  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 195.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

#### LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 6.60  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 09.08.94  
Test oil : ISO 4113

Combination No. : 0 402 640 843

Injection pump  
Pump designation : PE12P120A520LS7877  
EP type number : 0 412 620 840

Governor  
Governor design. : RQ750PA1158  
Governor no. : 0 421 801 727

Cust. part No. : 51.11103-7282

Customer-spec. information  
Customer : MAN  
Motor : D2842LE201  
Power KW : 532.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

K03

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 12- 1- 5- 9- 8  
: - 3- 4- 11- 10  
: - 2- 6- 7

Phasing : 0-45-60-105-120  
: -165-180-225-240  
: -285-300-345  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 12

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.80  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 350.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

Rated speed rpm : 300

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0

Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 758  
guide sleeve  
travel mm : 3.24  
Tolerance mm : + 0.25

Rated speed rpm : 490  
guide sleeve  
travel mm : -11.08  
Tolerance mm : + 0.25

Rated speed rpm : 850  
guide sleeve  
travel mm : 17.35  
Tolerance mm : + 0.25

Rated speed rpm : 811  
guide sleeve  
travel mm : 10.00  
Tolerance mm : + 0.25

Rated speed rpm : 870  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 350.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

#### CONTROL LEVER

control lever  
position degree : 88.0  
tolerance degree : + 4.0

#### RATED SPEED

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 900

#### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750  
rack travel mm : 13.80

Rated speed rpm : 787  
Tolerance 1/min : + 4  
rack travel mm : 4.00

Rated speed rpm : 751  
rack travel mm : 13.80

Rated speed rpm : 788  
Tolerance 1/min : + 4  
rack travel mm : 4.00

Rated speed rpm : 752  
rack travel mm : 13.80

Rated speed rpm : 789  
Tolerance 1/min : + 4  
rack travel mm : 4.00

Rated speed rpm : 753

rack travel mm : 13.80  
Rated speed rpm : 790  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00

Rated speed rpm : 754  
rack travel mm : 13.80

Rated speed rpm : 791  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00

Rated speed rpm : 755  
rack travel mm : 13.80

Rated speed rpm : 792  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 4.00

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 14.80  
Tolerance mm :  $\pm$  0.05

---

LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 02.11.93  
Test oil : ISO 4113  
Combination No. : 0 402 646 600  
Injection pump  
Pump designation : PE6P120A720RS7022  
EP type number : 0 412 626 873

Governor  
Governor design. : RQV200...1000PA539  
: -14  
Governor no. : 0 421 814 011

Cust. part No. : 1343250

Customer spec. information  
Customer : SCANIA  
Motor : DS11 76

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration  
damper  
(RoBo diaphragm) : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5

K06

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.45  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

## Start of delivery mark

Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 250



Rack travel in mm : 4.70  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 17.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 5.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
 position degree : - 1  
 Rated speed rpm : 1050

Rack travel in mm : 16.50  
 Tolerance mm : + 1.30

CONTROL LEVER

control lever  
 position degree : 64.0  
 tolerance degree : + 4.0

control lever  
 position degree : 116.0  
 tolerance degree : + 4.0

RATED SPEED  
 rack travel mm : 9.90  
 Rated speed rpm : 1045  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1130  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1250

LOW IDLE

K07

control lever  
 position degree : 67.0  
 tolerance degree : + 4.0

control lever  
 position degree : 23.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 150

CRT mm min. : > 6.20

Testing:

Rated speed rpm : 250  
 rack travel mm : 4.70  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 420  
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1000  
 rack travel mm : 10.95  
 Tolerance mm : + 0.05

ANEROID/ALTITUDE  
 COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
 Pressure hPa : 1500  
 rack travel mm : 10.95  
 Tolerance mm : + 0.05

Rated speed rpm : 500  
 Pressure hPa : -  
 rack travel mm : 10.10  
 Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 500  
 Pressure hPa : 340  
 rack travel mm : 10.30  
 Tolerance mm : + 0.15

Pressure hPa : 390  
 rack travel mm : 10.65

Tolerance mm :  $\pm$  0.05

---

#### FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.10  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

---

#### LOW IDLE

Rated speed rpm : 250  
Rack travel in mm : 4.70  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

K08

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.11.93  
Test oil : ISO 4113  
Combination No. : 0 402 646 607  
Injection pump  
Pump designation : PE6P130A720RS7270  
EP type number : 0 412 636 821  
Governor  
Governor design. : RQV300...950PA946-4  
Governor no. : 0 421 814 026

Cust. part No. :

Customer spec. information  
Customer : IVECO-UNIC  
Motor : 8210.42P.032

## TEST BENCH REQUIREMENTS

Inlet line : 4.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holder  
assembly : 1 688 901 105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 075  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 14.00  
Tolerance mm : ± 0.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 950  
Rack travel in mm : -11.35  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 212.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

Rated speed rpm : 275

Rack travel in mm : 4.70

Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1060

Rack travel in mm : 10.30  
Tolerance mm : + 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950  
Aneroid pressure  
hPa : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 212.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

CONTROL LEVER

control lever  
position degree : 121.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.30

Rated speed rpm : 995

Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1060

Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1200

---

LOW IDLE

control lever  
position degree : 77.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 6.90

Testing:

Rated speed rpm : 275

rack travel mm : 4.70

Tolerance mm : + 0.10

Rated speed rpm : 338

---

TORQUE CONTROL

Rated speed rpm : 950

rack travel mm : -11.35

Tolerance mm : + 0.05

Rated speed rpm : 550

rack travel mm : 11.40

Tolerance mm : + 0.10

Rated speed rpm : 500

rack travel mm : 8.00

Tolerance mm :  $\pm$  0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 550  
Pressure hPa : 1000  
rack travel mm : 11.35  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 550  
Pressure hPa : -  
rack travel mm : 10.40  
Tolerance mm :  $\pm$  0.10

##### MEASUREMENT

Rated speed rpm : 550  
Pressure hPa : 260  
rack travel mm : 10.70  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 300  
rack travel mm : 11.05  
Tolerance mm :  $\pm$  0.05

---

#### FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 216.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  5.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  8.0  
Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 185.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated,  
rack must reach start position in max.  
control lever setting.

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

#### LOW IDLE

Rated speed rpm : 275  
Rack travel in mm : 4.70  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.05.97  
Test oil : ISO 4113

Combination No. : 0 402 646 608

Injection pump  
Pump designation : PE6P120A720RS7188  
: -10J  
EP type number : 0 412 626 926

Governor  
Governor design. : RQ200/950PA745-3  
Governor no. : 0 421 801 579

Cust. part No. : 1344920

Customer-spec. information  
Customer : SCANIA  
Motor : DSC 11 71

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration  
damper  
(RoBo diaphragm) : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 235  
Tolerance l/h : ± 20.0

Test nozzle holde  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.45  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

---

#### BASIC SETTING

Rated speed rpm : 700

---

Rack travel in mm : 10.75  
Tolerance mm :  $\pm$  0.05

---

Rated speed rpm : 250

Rack travel in mm : 4.70  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1006  
guide sleeve  
travel mm : 4.90  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 250  
guide sleeve  
travel mm : 1.41  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 930  
guide sleeve  
travel mm : 4.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 355  
guide sleeve  
travel mm : 2.97  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 520  
guide sleeve  
travel mm : 4.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1045  
guide sleeve  
travel mm : 5.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1360  
guide sleeve  
travel mm : 11.50  
Tolerance mm :  $\pm$  0.50

---

##### GUIDE SLEEVE POSITION

control lever  
position degree : 104  
Rated speed rpm : 600

Rack travel in mm : 16.50  
Tolerance mm :  $\pm$  1.30

---

##### CONTROL LEVER

control lever  
position degree : 42.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 96.0  
tolerance degree :  $\pm$  4.0

RATED SPEED  
rack travel mm : 9.70  
Rated speed rpm : 1050  
Tolerance 1/min :  $\pm$  5  
Check  
speed 1/min :  $\pm$  10

rack travel mm : 4.00  
Rated speed rpm : 1135  
Tolerance 1/min :  $\pm$  15  
Check  
speed 1/min :  $\pm$  20

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1250

---

##### LOW IDLE

control lever  
position degree : 62.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 8.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 150

CRT mm min. :  $>$  6.00

#### Testing:

Rated speed rpm : 250  
rack travel mm : 4.70  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 340  
Tolerance 1/min :  $\pm$  20

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 10.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 950  
rack travel mm : 10.75  
Tolerance mm :  $\pm$  0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 10.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.75  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Rated speed rpm : 500

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 950

K15

Del. quantity  
cm<sup>3</sup>/1000 strokes : 158.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.75  
Tolerance mm :  $\pm$  0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

#### LOW IDLE

Rated speed rpm : 250  
Rack travel in mm : 4.70  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 01.10.93

Test oil : ISO 4113

Combination No. : 0 402 646 629

## Injection pump

Pump designation : PE6P120A320LS7278

EP type number : 0 412 626 880

## Governor

Governor design. : RQV325...100CPA1058

: -2

Governor no. : 0 421 814 061

Cust. part No. :

## Customer spec. information

Customer : LIAZ

Motor : M636S

Power KW : 170.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 120

Tolerance L/h : ± 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

## REMARKS

## (A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 5.00

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Del. quantity

cm<sup>3</sup>/1000 strokes : 184.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

#### Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 325

Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

#### Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1056  
guide sleeve  
travel mm : 8.66  
Tolerance mm : + 0.15

Rated speed rpm : 325  
guide sleeve  
travel mm : 1.55  
Tolerance mm : + 0.20

Rated speed rpm : 764  
guide sleeve  
travel mm : 5.77  
Tolerance mm : + 0.25

Rated speed rpm : 404  
guide sleeve  
travel mm : 2.41  
Tolerance mm : + 0.25

Rated speed rpm : 500  
guide sleeve  
travel mm : 3.35  
Tolerance mm : + 0.25

Rated speed rpm : 1270  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1135

Rack travel in mm : 9.70  
Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 184.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 64.0  
tolerance degree : + 4.0

control lever  
position degree : 117.0  
tolerance degree : + 4.0

RATED SPEED  
rack travel mm : 9.65  
Rated speed rpm : 1045  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1125  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1250

---

#### LOW IDLE

control lever  
position degree : 65.0  
tolerance degree : ± 4.0

control lever  
position degree : 9.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 6.10

Testing:

Rated speed rpm : 350

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 10.65  
Tolerance mm : ± 0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 8.20  
Tolerance mm : ± 0.20

##### MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 365  
rack travel mm : 9.05  
Tolerance mm : ± 0.20

Pressure hPa : 590  
rack travel mm : 10.25  
Tolerance mm : ± 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 143.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 325.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

#### LOW IDLE

Rated speed rpm : 325  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.10.93  
Test oil : ISO 4113

Combination No. : 0 402 646 631

Injection pump  
Pump designation : PE6P120A720RS7307  
EP type number : 0 412 626 905

Governor  
Governor design. : RQ300/1100PA1095  
Governor no. : 0 421 801 693

Cust. part No. : 615.60.08.0279

## Customer-spec. information

Customer : SNF  
Motor : WD615.48/49

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 180  
Tolerance l/h : ± 20.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.35  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery blocking

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.65  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 229.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 7.20  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

#### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1150  
guide sleeve  
travel mm : 6.37  
Tolerance mm : ± 0.10

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.75  
Tolerance mm : ± 0.10

Rated speed rpm : 1100  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 426  
guide sleeve  
travel mm : 5.04

Tolerance mm : ± 0.10

Rated speed rpm : 500  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1280  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

#### GUIDE SLEEVE POSITION

control lever  
position degree : 109  
Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 229.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever  
position degree : 94.0  
tolerance degree : ± 4.0

RATED SPEED  
rack travel mm : 11.60  
Rated speed rpm : 1145  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1200  
Tolerance 1/min : ± 15

rack travel mm : 0.70  
Tolerance mm : ± 0.70

Rated speed rpm : 1300

---

#### LOW IDLE

control lever  
position degree : 75.0  
tolerance degree :  $\pm$  4.0

#### Setting point w/out bumper spring

Rated speed rpm : 200  
CRT mm min. :  $>$  9.40

#### Testing:

Rated speed rpm : 300  
rack travel mm : 7.20  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 415  
Tolerance 1/min :  $\pm$  20

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.65  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 650  
rack travel mm : 12.65  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 12.65  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.60  
Tolerance mm :  $\pm$  0.10

#### MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 725

rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 450  
rack travel mm : 11.00  
Tolerance mm :  $\pm$  0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 247.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 158.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.60  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

#### LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 7.20  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0

Check tolerance  
ca3/1000S. : + 6.0  
Speed  
Tolerance  
ca3/1000 strokes : 8.0  
Check tolerance  
ca3/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 20.06.95  
Test oil : ISO 4113

Combination No. : 0 402 646 634

Injection pump  
Pump designation : PE6P120A720RS7188  
: -10  
EP type number : 0 412 626 924

Governor  
Governor design. : RQ200...950PA745-5  
Governor no. : 0 421 801 695

Cust. part No. : 1356404

Customer spec. information  
Customer : SCANIA  
Motor : DSC 11 73

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration  
damper  
(RoBo diaphragm) : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5

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Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.45  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 250

Rack travel in mm : 4.70  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0



Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1006  
guide sleeve  
travel mm : 4.90  
Tolerance mm : + 0.15

Rated speed rpm : 250  
guide sleeve  
travel mm : 1.41  
Tolerance mm : + 0.20

Rated speed rpm : 930  
guide sleeve  
travel mm : 4.50  
Tolerance mm : + 0.10

Rated speed rpm : 355  
guide sleeve  
travel mm : 2.97  
Tolerance mm : + 0.10

Rated speed rpm : 520  
guide sleeve  
travel mm : 4.50  
Tolerance mm : + 0.10

Rated speed rpm : 1045  
guide sleeve  
travel mm : 5.50  
Tolerance mm : + 0.10

Rated speed rpm : 1360  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

control lever  
position degree : 109  
Rated speed rpm : 500

Rack travel in mm : 20.00  
Tolerance mm : + 0.80

##### CONTROL LEVER

control lever  
position degree : 43.0  
tolerance degree : + 4.0

control lever  
position degree : 97.0  
tolerance degree : + 4.0

RATED SPEED  
rack travel mm : 10.20  
Rated speed rpm : 995  
Tolerance 1/min : + 5  
Check  
speed 1/min : + 10

rack travel mm : 4.00  
Rated speed rpm : 1125  
Tolerance 1/min : + 15  
Check  
speed 1/min : + 20

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1200

##### LOW IDLE

control lever  
position degree : 65.0  
tolerance degree : + 4.0

control lever  
position degree : 11.0  
tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 150

CRT mm min. : > 6.00

##### Testing:

Rated speed rpm : 250  
rack travel mm : 4.70  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 340  
Tolerance 1/min : + 30

---

#### TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 11.25  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.40  
Tolerance mm :  $\pm$  0.20

##### MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 210  
rack travel mm : 10.60  
Tolerance mm :  $\pm$  0.15  
  
Pressure hPa : 270  
rack travel mm : 11.05  
Tolerance mm :  $\pm$  0.05

---

#### FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 179.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 153.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.40  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

---

#### LOW IDLE

Rated speed rpm : 250  
  
Rack travel in mm : 4.70  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.10.93  
Test oil : ISO 4113

Combination No. : 0 402 646 635

Injection pump  
Pump designation : PE6P120A720RS7307  
EP type number : 0 412 626 905

Governor  
Governor design. : RGV300...1100PA1100  
Governor no. : 0 421 814 074

Cust. part No. : 615.60.08.0280

Customer-spec. information  
Customer : SNF  
Motor : WD615.48/49  
Power KW : 265.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 180  
Tolerance l/h : ± 20.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.35  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery blocking

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.65  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 229.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

#### Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 7.20  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

#### Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1270

Rack travel in mm : 11.60  
Tolerance mm : + 1.30

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 229.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

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Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever  
position degree : 119.0  
tolerance degree : + 4.0

#### RATED SPEED

rack travel mm : 11.60  
Rated speed rpm : 1145  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1265  
Tolerance 1/min : + 15

rack travel mm : 0.70  
Tolerance mm : + 0.70  
Rated speed rpm : 1350

#### LOW IDLE

control lever  
position degree : 87.0  
tolerance degree : + 4.0

#### Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 9.40

#### Testing:

Rated speed rpm : 300  
rack travel mm : 7.20  
Tolerance mm : + 0.10

Rated speed rpm : 380

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.65  
Tolerance mm : + 0.05

Rated speed rpm : 650  
rack travel mm : 12.65  
Tolerance mm : + 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 12.65  
Tolerance mm :  $\pm 0.05$

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.60  
Tolerance mm :  $\pm 0.10$

MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 725  
rack travel mm : 12.00  
Tolerance mm :  $\pm 0.10$

Pressure hPa : 450  
rack travel mm : 11.00  
Tolerance mm :  $\pm 0.05$

---

FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 247.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm 3.0$   
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm 6.0$

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 158.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm 1.0$   
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm 4.0$

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.70  
Tolerance mm :  $\pm 0.10$   
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm 10.0$   
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm 14.0$

---

LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 7.20  
Tolerance mm :  $\pm 0.10$   
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm 3.0$   
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm 6.0$   
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.10.93  
Test oil : ISO 4113

Combination No. : 0 402 646 636

Injection pump  
Pump designation : PE6P120A320LS7278  
EP type number : 0 412 626 880

Governor  
Governor design. : RQV325...1000PA1058  
: -3  
Governor no. : 0 421 814 072

Cust. part No. :

Customer spec. information  
Customer : LIAZ  
Motor : ML637S  
Power KW : 190.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 700 089

Outside diameter : 8.0

L01

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.10  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 325  
Rack travel in mm : 5.30  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

Tolerance  
 cm3/1000 strokes : + 3.0  
 Check tolerance  
 cm3/1000S. : + 6.0  
 Spreed  
 Tolerance  
 cm3/1000 strokes : 8.0  
 Check tolerance  
 cm3/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1057  
 guide sleeve  
 travel mm : 8.68  
 Tolerance mm : + 0.15

Rated speed rpm : 325  
 guide sleeve  
 travel mm : 1.55  
 Tolerance mm : + 0.20

Rated speed rpm : 764  
 guide sleeve  
 travel mm : 5.77  
 Tolerance mm : + 0.25

Rated speed rpm : 354  
 guide sleeve  
 travel mm : 1.90  
 Tolerance mm : + 0.25

Rated speed rpm : 404  
 guide sleeve  
 travel mm : 2.41  
 Tolerance mm : + 0.25

Rated speed rpm : 500  
 guide sleeve  
 travel mm : 3.35  
 Tolerance mm : + 0.25

Rated speed rpm : 1270  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

control lever  
 position degree : - 1  
 Rated speed rpm : 1100

Rack travel in mm : 12.30  
 Tolerance mm : + 1.30

##### CONTROL LEVER

control lever  
 position degree : 66.0  
 tolerance degree : + 4.0

control lever  
 position degree : 120.0  
 tolerance degree : + 4.0

RATED SPEED  
 rack travel mm : 12.40  
 Rated speed rpm : 1045  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1160  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1250

##### LOW IDLE

control lever  
 position degree : 65.0  
 tolerance degree : + 4.0

control lever  
 position degree : 11.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 6.70

Testing:

Rated speed rpm : 325  
 rack travel mm : 5.30  
 Tolerance mm : + 0.30

rack travel mm : 2.00  
 Rated speed rpm : 495  
 Tolerance 1/min : + 30

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.40  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
Tolerance mm :  $\pm$  0.20

MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 300  
rack travel mm : 11.00  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 665  
rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.05

---

FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 143.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 410.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

---

LOW IDLE

L03

Rated speed rpm : 325  
  
Rack travel in mm : 5.30  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.10.93  
Test oil : ISO 4113  
Combination No. : 0 402 646 642  
Injection pump  
Pump designation : PE6P120A32DLS7278  
EP type number : 0 412 626 880  
Governor  
Governor design. : RGV325...1000PA1058  
: -4  
Governor no. : 0 421 814 080

Cust. part No. :

Customer spec. information  
Customer : LIAZ  
Motor : ML636P  
Power KW : 152.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 1 688 901 103  
Opening pressure  
bar : 20±.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

L04

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.35  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75  
Start of delivery mark  
Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 325  
Rack travel in mm : 4.00  
Tolerance mm : ± 0.30

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 24.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1045  
 guide sleeve  
 travel mm : 8.53  
 Tolerance mm : + 0.15

Rated speed rpm : 325  
 guide sleeve  
 travel mm : 1.55  
 Tolerance mm : + 0.20

Rated speed rpm : 760  
 guide sleeve  
 travel mm : 5.73  
 Tolerance mm : + 0.25

Rated speed rpm : 354  
 guide sleeve  
 travel mm : 1.90  
 Tolerance mm : + 0.25

Rated speed rpm : 404  
 guide sleeve  
 travel mm : 2.50  
 Tolerance mm : + 0.25

Rated speed rpm : 490  
 guide sleeve  
 travel mm : 3.25  
 Tolerance mm : + 0.25

Rated speed rpm : 1270  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever  
 position degree : - 1

L05

Rated speed rpm : 1125  
 Rack travel in mm : 10.50  
 Tolerance mm : + 1.30

CONTROL LEVER

control lever  
 position degree : 61.0  
 tolerance degree : + 4.0

control lever  
 position degree : 116.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.60  
 Rated speed rpm : 1045  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1135  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1250

LOW IDLE

control lever  
 position degree : 64.0  
 tolerance degree : + 4.0

control lever  
 position degree : 9.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225  
 CRT mm min. : > 5.60

Testing:

Rated speed rpm : 325  
 rack travel mm : 4.00  
 Tolerance mm : + 0.30

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.60  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
Tolerance mm :  $\pm$  0.20

MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 380  
rack travel mm : 9.95  
Tolerance mm :  $\pm$  0.20  
  
Pressure hPa : 580  
rack travel mm : 11.20  
Tolerance mm :  $\pm$  0.05

---

FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 143.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 330.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

---

LOW IDLE

LD6

Rated speed rpm : 325  
  
Rack travel in mm : 4.00  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.06.94  
Test oil : ISO 4113  
Combination No. : 0 402 646 645  
Injection pump  
Pump designation : PE6P120A72ORS7330  
EP type number : 0 412 626 917  
Governor  
Governor design. : RQV300...1200PA1143K  
Governor no. : 0 421 815 412

Cust. part No. : 615.60.08.0210

Customer spec. information  
Customer : SNF  
Motor : WD612.32  
Power kW : 169.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

L07

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.20  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 15.00  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.50  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 178.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.00  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1255  
guide sleeve  
travel mm : 10.44  
Tolerance mm : + 0.25

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.75  
Tolerance mm : + 0.25

Rated speed rpm : 843  
guide sleeve  
travel mm : 6.59  
Tolerance mm : + 0.25

Rated speed rpm : 333  
guide sleeve  
travel mm : 2.29  
Tolerance mm : + 0.25

Rated speed rpm : 383  
guide sleeve  
travel mm : 2.89  
Tolerance mm : + 0.25

Rated speed rpm : 490  
guide sleeve  
travel mm : 3.86  
Tolerance mm : + 0.25

Rated speed rpm : 1490  
guide sleeve  
travel mm : 13.50  
Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1340

Rack travel in mm : 11.20  
Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 178.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 120.0  
tolerance degree : + 4.0

RATED SPEED  
rack travel mm : 11.40  
Rated speed rpm : 1245  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1345  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1450

---

#### LOW IDLE

control lever  
position degree : 73.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 200  
CRT mm min. :  $>$  8.00

#### Testing:

Rated speed rpm : 300  
rack travel mm : 6.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 300

---

#### TORQUE CONTROL

Rated speed rpm : 1200  
rack travel mm : 12.50  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
rack travel mm : 12.80  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 800  
rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 650  
rack travel mm : 11.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500  
rack travel mm : 11.50  
Tolerance mm :  $\pm$  0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1200  
Pressure hPa : 1200  
rack travel mm : 12.50  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1200

L09

Pressure hPa : -  
rack travel mm : 9.90  
Tolerance mm :  $\pm$  0.10

#### MEASUREMENT

Rated speed rpm : 1200

Pressure hPa : 755  
rack travel mm : 12.15  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 355  
rack travel mm : 10.20  
Tolerance mm :  $\pm$  0.05

---

#### Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  230

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  250

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 190.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 800  
rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 192.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  4.0  
Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 182.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 187.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 148.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 7.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.50

Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

#### LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 6.00  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.06.94  
Test oil : ISO 4113  
Combination No. : 0 402 646 648  
Injection pump  
Pump designation : PE6P120A72ORS7330  
EP type number : 0 412 626 917  
Governor  
Governor design. : RQV300...1200PA1144K  
Governor no. : 0 421 815 417

Cust. part No. : 612.60.08.0211

Customer-spec. information  
Customer : SNF  
Motor : WD612.34  
Power KW : 191.0

## TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.20  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 15.00  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 13.90  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 190.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0



Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.80

Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1255  
guide sleeve  
travel mm : 9.85  
Tolerance mm : + 0.25

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.20  
Tolerance mm : + 0.25

Rated speed rpm : 845  
guide sleeve  
travel mm : 6.06  
Tolerance mm : + 0.25

Rated speed rpm : 335  
guide sleeve  
travel mm : 1.79  
Tolerance mm : + 0.25

Rated speed rpm : 385  
guide sleeve  
travel mm : 2.47  
Tolerance mm : + 0.25

Rated speed rpm : 480  
guide sleeve  
travel mm : 3.23  
Tolerance mm : + 0.25

Rated speed rpm : 1530  
guide sleeve  
travel mm : 13.50  
Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1340

Rack travel in mm : 12.90  
Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 190.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 119.0  
tolerance degree : + 4.0

RATED SPEED  
rack travel mm : 12.90  
Rated speed rpm : 1245  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1365  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1450

---

## LOW IDLE

control lever  
position degree : 73.0  
tolerance degree :  $\pm$  4.0

### Setting point w/out bumper spring

Rated speed rpm : 200  
CRT mm min. :  $>$  8.10

### Testing:

Rated speed rpm : 300  
rack travel mm : 6.80  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 360

---

## TORQUE CONTROL

Rated speed rpm : 1200  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 800  
rack travel mm : 13.80  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 650  
rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500  
rack travel mm : 12.70  
Tolerance mm :  $\pm$  0.10

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 1200  
Pressure hPa : 1200  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1200

Pressure hPa : -  
rack travel mm : 10.70  
Tolerance mm :  $\pm$  0.10

## MEASUREMENT

Rated speed rpm : 1200

Pressure hPa : 965  
rack travel mm : 13.50  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 420  
rack travel mm : 11.00  
Tolerance mm :  $\pm$  0.05

---

## Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  250

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  270

---

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 202.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 800  
rack travel mm : 13.80  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 214.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 206.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 204.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.50

Del. quantity  
cm<sup>3</sup>/1000 strokes : 175.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 20.0

---

#### LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 6.80  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.03.98  
Test oil : ISO 4113  
  
Combination No. : 0 402 646 673  
  
Injection pump  
Pump designation : PE6P120A320RS7412  
EP type number : 0 412 626 953  
  
Governor  
Governor design. : RGV275...1000PA1300K  
Governor no. : 0 421 815 527

Cust. part No. : 1315099

## Customer spec. information

Customer : DAF  
Motor : XF 250 M  
Power KW : 250.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 150  
Tolerance l/h : ± 20.0

Test nozzle holde  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.45  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## Start of delivery mark

Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 12.00  
Tolerance mm :  $\pm$  0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 289.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

Spread

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Rated speed rpm : 275

Rack travel in mm : 3.90  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1072  
guide sleeve  
travel mm : 10.16  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 275  
guide sleeve  
travel mm : 2.04  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 701  
guide sleeve  
travel mm : 6.52  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 400  
guide sleeve  
travel mm : 3.92  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1310  
guide sleeve  
travel mm : 13.50  
Tolerance mm :  $\pm$  0.50

---

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1181

Rack travel in mm : 10.00  
Tolerance mm :  $\pm$  2.00

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750  
Aneroid pressure  
hPa : 1500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 289.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

##### CONTROL LEVER

control lever  
position degree : 118.0  
tolerance degree :  $\pm$  4.0

RATED SPEED  
rack travel mm : 10.50  
Rated speed rpm : 1045  
Tolerance 1/min :  $\pm$  5  
Check  
speed 1/min :  $\pm$  10

rack travel mm : 4.00  
Rated speed rpm : 1140  
Tolerance 1/min :  $\pm$  15  
Check  
speed 1/min :  $\pm$  20

rack travel mm : 0.70  
Tolerance mm :  $\pm$  0.70  
Rated speed rpm : 1275

---

#### LOW IDLE

control lever  
position degree : 70.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 175

CRT mm min. :  $>$  6.50

#### Testing:

Rated speed rpm : 275  
rack travel mm : 3.90  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 310

---

#### TORQUE CONTROL

Rated speed rpm : 750  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 980  
rack travel mm : 11.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 900  
rack travel mm : 11.70  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 700  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 600  
rack travel mm : 11.40  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500  
rack travel mm : 10.90  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1000  
rack travel mm : 11.50  
Tolerance mm :  $\pm$  0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 775  
Pressure hPa : 1500  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 775  
Pressure hPa : -  
rack travel mm : 8.30  
Tolerance mm :  $\pm$  0.20

#### MEASUREMENT

Rated speed rpm : 775

Pressure hPa : 460  
rack travel mm : 11.00  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 250  
rack travel mm : 9.30  
Tolerance mm :  $\pm$  0.10

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 980  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 250.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

rack travel mm : 11.70  
Tolerance mm :  $\pm$  0.10

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 188.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

LOW IDLE

Rated speed rpm : 275  
  
Rack travel in mm : 3.90  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 19.04.96  
Test oil : ISO 4113

Combination No. : 0 402 646 741

Injection pump  
Pump designation : PE6P120A320LS7872  
EP type number : 0 412 626 912

Governor  
Governor design. : RQ750PA1231  
Governor no. : 0 421 801 791

Cust. part No. : 04222728KY0165-17

**Customer-spec. information**

Customer : KHD  
Motor : BF6M1015/C  
Power kW : 239.0

**TEST BENCH REQUIREMENTS**

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 100  
Tolerance l/h : ± 20.0

Test nozzle holde  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 6- 3- 5- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

**Start of delivery mark**

Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

**BASIC SETTING**

Rated speed rpm : 700



Rack travel in mm : 13.30  
Tolerance mm :  $\pm$  0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 365.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 715  
guide sleeve  
travel mm : 4.23  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 610  
guide sleeve  
travel mm : 0.72  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 900  
guide sleeve  
travel mm : 14.89  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 862

guide sleeve  
travel mm : 12.00  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 930  
guide sleeve  
travel mm : 13.50  
Tolerance mm :  $\pm$  0.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 365.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 109.0  
tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 900

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750  
rack travel mm : 12.30

Rated speed rpm : 780  
Tolerance 1/min :  $\pm$  4  
rack travel mm : 5.50

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 900

Rated speed rpm : 751  
rack travel mm : 12.30

Rated speed rpm : 781  
Tolerance 1/min :  $\pm$  4

rack travel mm	:	5.50
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	900
Rated speed rpm	:	752
rack travel mm	:	12.30
Rated speed rpm	:	782
Tolerance 1/min	:	+ 4
rack travel mm	:	5.50
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	900
Rated speed rpm	:	753
rack travel mm	:	12.30
Rated speed rpm	:	783
Tolerance 1/min	:	+ 4
rack travel mm	:	5.50
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	900
Rated speed rpm	:	754
rack travel mm	:	12.30
Rated speed rpm	:	784
Tolerance 1/min	:	+ 4
rack travel mm	:	5.50
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	900
Rated speed rpm	:	755
rack travel mm	:	12.30
Rated speed rpm	:	785
Tolerance 1/min	:	+ 4
rack travel mm	:	5.50
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	900

#### TORQUE CONTROL

Rated speed rpm	:	700
rack travel mm	:	13.30
Tolerance mm	:	+ 0.05

#### Start interlock

Rated speed rpm	:	> 100
Rated speed rpm	:	< 560

Check speed 1/min	:	> 80
Check speed 1/min	:	< 580

#### STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	20.25
Tolerance mm	:	+ 0.75
Del. quantity cm <sup>3</sup> /1000 strokes	:	200.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ 20.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 24.0

#### LOW IDLE

Rated speed rpm	:	300
Del. quantity cm <sup>3</sup> /1000 strokes	:	20.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 6.0
Speed Tolerance cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance cm <sup>3</sup> /1000S.	:	12.0

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 24.07.96

Test oil : ISO 4113

Combination No. : 0 402 646 779

## Injection pump

Pump designation : PE6P120A320LS7872

EP type number : 0 412 626 912

## Governor

Governor design. : RQ300/1000PA1163

Governor no. : 0 421 801 734

Cust. part No. : B0165-6-4

## Customer spec. information

Customer : KHD

Motor : BF6M1015C

Power KW : 300.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Test nozzle holder assembly

: 1 688 901 105

Opening pressure bar

: 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

## REMARKS

## (A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 4.05

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 6- 3- 5- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.50

Check

tolerance °NW : ± 0.75

## Start of delivery mark

Tolerance : ± 0.50

Check

tolerance °NW : ± 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 14.00

Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 340.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.00  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1051  
guide sleeve  
travel mm : 6.36  
Tolerance mm : ± 0.10

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.73  
Tolerance mm : ± 0.10

Rated speed rpm : 1000  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 388  
guide sleeve  
travel mm : 4.79

Tolerance mm : ± 0.10

Rated speed rpm : 460  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1210  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

##### GUIDE SLEEVE POSITION

control lever  
position degree : 109  
Rated speed rpm : 465

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure  
hPa : 1700

Del. quantity  
cm<sup>3</sup>/1000 strokes : 340.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 100.0  
tolerance degree : ± 4.0

RATED SPEED  
rack travel mm : 13.00  
Rated speed rpm : 1045  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1125  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50

Rated speed rpm : 1220

---

#### LOW IDLE

control lever  
position degree : 74.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. :  $>$  8.00

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.00  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 365  
Tolerance 1/min :  $\pm$  20

---

#### TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 14.00  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 1700  
rack travel mm : 14.00  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 400  
Pressure hPa : -  
rack travel mm : 8.90  
Tolerance mm :  $\pm$  0.20

#### MEASUREMENT

Rated speed rpm : 400  
Pressure hPa : 365  
rack travel mm : 9.80  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 1000

rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.05

---

#### Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  220

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  240

---

#### FUEL DELIVERY CHARACTERISTICS

---

#### Aneroid pressure

hPa : -  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 190.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

---

#### LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 5.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.08.94  
Test oil : ISO 4113

Combination No. : 0 402 646 788

Injection pump  
Pump designation : PE6P120A320LS7858  
EP type number : 0 412 626 875

Governor  
Governor design. : RQ300/1050PA1031-11  
Governor no. : 0 421 801 680

Cust. part No. : 0240740302

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM401 LA  
Power KW : 200.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.75  
Tolerance mm : ± 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	:	190.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ 1.0
check tolerance cm <sup>3</sup> /1000S.	:	+ 4.0
Spreed		
Tolerance cm <sup>3</sup> /1000 strokes	:	5.0
check tolerance cm <sup>3</sup> /1000S.	:	9.0

Rated speed rpm	:	300
Rack travel in mm	:	5.20
Tolerance mm	:	+ 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	:	19.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ 3.0
check tolerance cm <sup>3</sup> /1000S.	:	+ 6.0
Spreed		
Tolerance cm <sup>3</sup> /1000 strokes	:	6.0
check tolerance cm <sup>3</sup> /1000S.	:	10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	1103
guide sleeve travel mm	:	6.38
Tolerance mm	:	+ 0.10
Rated speed rpm	:	300
guide sleeve travel mm	:	2.59
Tolerance mm	:	+ 0.10
Rated speed rpm	:	1050
guide sleeve travel mm	:	6.00
Tolerance mm	:	+ 0.10
Rated speed rpm	:	410

guide sleeve travel mm	:	5.25
Tolerance mm	:	+ 0.10

Rated speed rpm	:	480
guide sleeve travel mm	:	6.00
Tolerance mm	:	+ 0.10

Rated speed rpm	:	1280
guide sleeve travel mm	:	11.50
Tolerance mm	:	+ 0.50

GUIDE SLEEVE POSITION

control lever position degree	:	109
Rated speed rpm	:	600

Rack travel in mm	:	20.00
Tolerance mm	:	+ 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1050
Aneroid pressure hPa	:	800
Del. quantity cm <sup>3</sup> /1000 strokes	:	190.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ 1.0
check tolerance cm <sup>3</sup> /1000S.	:	+ 4.0
Spreed		
Tolerance cm <sup>3</sup> /1000 strokes	:	5.0
check tolerance cm <sup>3</sup> /1000S.	:	9.0

CONTROL LEVER

control lever position degree	:	94.0
tolerance degree	:	+ 4.0

RATED SPEED rack travel mm	:	10.75
Rated speed rpm	:	1098
Tolerance 1/min	:	+ 8

rack travel mm	:	4.00
Rated speed rpm	:	1175
Tolerance 1/min	:	+ 15



rack travel mm : 0.75  
Tolerance mm :  $\pm$  0.75  
Rated speed rpm : 1300

---

#### LOW IDLE

control lever  
position degree : 74.0  
tolerance degree :  $\pm$  4.0

#### Setting point w/out bumper spring

Rated speed rpm : 200  
CRT mm min. :  $>$  7.50

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.20  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 380  
Tolerance 1/min :  $\pm$  20

---

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 11.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 550  
rack travel mm : 11.75  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 800  
rack travel mm : 11.75  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 400  
Pressure hPa : -  
rack travel mm : 9.75  
Tolerance mm :  $\pm$  0.15

#### MEASUREMENT

Pressure hPa : -

Rated speed rpm : 500  
rack travel mm : 9.75  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 400

Pressure hPa : 200  
rack travel mm : 10.60  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 350  
rack travel mm : 11.25  
Tolerance mm :  $\pm$  0.05

---

#### Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  220

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 800  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 184.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : 350  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 127.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 220.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 14.0

---

#### LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 5.20  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 10.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.02.87  
Test oil : ISO 4113

Combination No. : 0 402 646 803

Injection pump  
Pump designation : PE6P120A72ORS7004  
EP type number : 0 412 626 801

Governor  
Governor design. : RQ750PA528  
Governor no. : 0 421 801 126

Cust. part No. :

## Customer-spec. information

Customer : SAAB-SCANIA  
Motor : s. Bemerkungen

## TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5

MO2

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

## Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 87.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.80  
Rated speed rpm : 753  
Tolerance 1/min : + 3  
  
rack travel mm : 4.00  
Rated speed rpm : 791  
Tolerance 1/min : + 7

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750  
rack travel mm : 11.80  
  
Rated speed rpm : 788  
Tolerance 1/min : + 4  
rack travel mm : 4.00  
  
rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

Rated speed rpm : 751  
rack travel mm : 11.80

Rated speed rpm : 789  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

Rated speed rpm : 752  
rack travel mm : 11.80

Rated speed rpm : 790  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

Rated speed rpm : 753  
rack travel mm : 11.80

Rated speed rpm : 791  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

Rated speed rpm : 754  
rack travel mm : 11.80

Rated speed rpm : 792  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

Rated speed rpm : 755  
rack travel mm : 11.80

Rated speed rpm : 793  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 265.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  25.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.10.94  
Test oil : ISO 4113

Combination No. : 0 402 646 892

Injection pump  
Pump designation : PE6P120A720RS7170  
EP type number : 0 412 626 829

Governor  
Governor design. : RQ90CPA758-12  
Governor no. : 0 421 801 500

Cust. part No. : 1305084

Customer-spec. information  
Customer : SCANIA  
Motor : DS 11

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration  
damper  
(RoBo diaphragm) : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

M05

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 12.55  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 247.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed

Tolerance

cm<sup>3</sup>/1000 strokes : 7.0

Check tolerance

cm<sup>3</sup>/1000S. : 10.0

Rack travel in mm : 5.90

Tolerance mm : +- 0.20

Del. quantity

cm<sup>3</sup>/1000 strokes : 16.0

Tolerance

cm<sup>3</sup>/1000 strokes : +- 4.0

Check tolerance

cm<sup>3</sup>/1000S. : +- 6.0

Spreed

Tolerance

cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance

cm<sup>3</sup>/1000S. : 7.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 909

guide sleeve

travel mm : 3.73

Tolerance mm : +- 0.25

Rated speed rpm : 630

guide sleeve

travel mm : -7.07

Tolerance mm : +- 0.25

Rated speed rpm : 1050

guide sleeve

travel mm : 16.80

Tolerance mm : +- 0.25

Rated speed rpm : 989

guide sleeve

travel mm : 10.00

Tolerance mm : +- 0.25

Rated speed rpm : 1050

guide sleeve

travel mm : 11.50

Tolerance mm : +- 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850

Aneroid pressure

hPa : 900

Del. quantity

cm<sup>3</sup>/1000 strokes : 247.0

Tolerance

cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance

cm<sup>3</sup>/1000S. : +- 4.0

Spreed

Tolerance

cm<sup>3</sup>/1000 strokes : 7.0

Check tolerance

cm<sup>3</sup>/1000S. : 10.0

CONTROL LEVER

control lever

position degree : 86.0

tolerance degree : +- 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 900

rack travel mm : 11.50

Rated speed rpm : 946

Tolerance 1/min : +- 4

rack travel mm : 4.00

rack travel mm : 0.50

Tolerance mm : +- 0.50

Rated speed rpm : 1000

Rated speed rpm : 901

rack travel mm : 11.50

Rated speed rpm : 947

Tolerance 1/min : +- 4

rack travel mm : 4.00

rack travel mm : 0.50

Tolerance mm : +- 0.50

Rated speed rpm : 1000

Rated speed rpm : 902

rack travel mm : 11.50

Rated speed rpm : 948

Tolerance 1/min : +- 4

rack travel mm : 4.00

rack travel mm : 0.50

Tolerance mm : +- 0.50

Rated speed rpm : 1000

Rated speed rpm : 903  
rack travel mm : 11.50

Rated speed rpm : 949  
Tolerance 1/min :  $\pm 4$   
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm 0.50$   
Rated speed rpm : 1000

Rated speed rpm : 904  
rack travel mm : 11.50

Rated speed rpm : 950  
Tolerance 1/min :  $\pm 4$   
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm 0.50$   
Rated speed rpm : 1000

Rated speed rpm : 905  
rack travel mm : 11.50

Rated speed rpm : 951  
Tolerance 1/min :  $\pm 4$   
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm :  $\pm 0.50$   
Rated speed rpm : 1000

---

#### TORQUE CONTROL

Rated speed rpm : 850  
rack travel mm : 12.55  
Tolerance mm :  $\pm 0.05$

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 12.55  
Tolerance mm :  $\pm 0.05$

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 9.90  
Tolerance mm :  $\pm 0.20$

M07

#### MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 370  
rack travel mm : 10.85  
Tolerance mm :  $\pm 0.15$

Pressure hPa : 575  
rack travel mm : 12.05  
Tolerance mm :  $\pm 0.05$

---

#### FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 152.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm 2.0$   
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm 4.0$

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 9.90  
Tolerance mm :  $\pm 0.20$   
Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm 20.0$

---

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 04.11.93

Test oil : ISO 4113

Combination No. : 0 402 646 915X

## Injection pump

Pump designation : PE6P120A320LS7836

: -10

EP type number : 0 412 626 854

## Governor

Governor design. : RQ300/1050PA972

Governor no. : 0 421 801 542

Cust. part No. : 0200740202

## Customer spec. information

Customer : MB-NFZ

Motor : OM401 LA

Power KW : 200.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Overflow quantity

min. l/h : 110

Tolerance l/h : ± 10.0

Test nozzle holder

assembly : 1 688 901 105

Opening pressure

bar : 208.5

Tolerance bar : ± 1.5

M08

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

## REMARKS

## (A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 5.55

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 20.50

Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.20

Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 202.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.60  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

#### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1108  
guide sleeve  
travel mm : 6.37  
Tolerance mm : ± 0.10

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.44  
Tolerance mm : ± 0.10

Rated speed rpm : 1050  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 404  
guide sleeve  
travel mm : 3.86

M09

Tolerance mm : ± 0.10

Rated speed rpm : 520  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1280  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

#### GUIDE SLEEVE POSITION

control lever  
position degree : 109  
Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : 1400

Del. quantity  
cm<sup>3</sup>/1000 strokes : 202.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever  
position degree : 98.0  
tolerance degree : ± 4.0

RATED SPEED  
rack travel mm : 12.20  
Rated speed rpm : 1098  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1180  
Tolerance 1/min : ± 15

rack travel mm : 0.75  
Tolerance mm : ± 0.75

Rated speed rpm : 1300

---

#### LOW IDLE

control lever  
position degree : 74.0  
tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. :  $>$  7.50

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.60  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min :  $\pm$  20

---

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 13.20  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 13.20  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 600  
rack travel mm : 13.20  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 1400  
rack travel mm : 13.20  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 400  
Pressure hPa : -  
rack travel mm : 10.25  
Tolerance mm :  $\pm$  0.15

#### MEASUREMENT

M10

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.15  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 400

Pressure hPa : 200  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 350  
Tolerance mm :  $\pm$  0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1400  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 204.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

rack travel mm : 13.20  
Tolerance mm :  $\pm$  0.05

Aneroid pressure  
hPa : 350  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  4.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  4.0  
Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.25  
Tolerance mm :  $\pm$  0.15  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 60.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

#### LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 5.60  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

Note remarks

Edition	: 08.11.93
Test oil	: ISO 4113
Combination No.	: 0 402 646 922X
Injection pump	
Pump designation	: PE6P120A320LS7834
	: -10
EP type number	: 0 412 626 853
Governor	
Governor design.	: RQ300/1050PA972-2
Governor no.	: 0 421 801 556

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM401 LA  
Power KW : 213.0

Opening pressure : 208.5 bar  
Tolerance bar : + 1.5

Rack travel in mm : 14.10  
Tolerance mm :  $\pm 0.05$

Del. quantity  
cm<sup>3</sup>/1000 strokes : 217.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.20  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever  
position degree : 109  
Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : 1500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 217.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever  
position degree : 97.0  
tolerance degree : ± 4.0

#### RATED SPEED

rack travel mm : 13.10  
Rated speed rpm : 1098  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1190  
Tolerance 1/min : ± 15

rack travel mm : 0.75  
Tolerance mm : ± 0.75  
Rated speed rpm : 1300

#### LOW IDLE

control lever  
position degree : 72.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.50

#### Testing:

Rated speed rpm : 300  
rack travel mm : 6.20  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : ± 20

#### TORQUE CONTROL

Rated speed rpm : 1050

rack travel mm : 14.10  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 14.10  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 600  
rack travel mm : 14.10  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 400  
Pressure hPa : 1500  
rack travel mm : 14.10  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 400  
Pressure hPa : -  
rack travel mm : 9.45  
Tolerance mm :  $\pm$  0.15

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.45  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 400

Pressure hPa : 350  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 550  
rack travel mm : 13.30  
Tolerance mm :  $\pm$  0.10

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 218.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  5.0  
Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

rack travel mm : 14.10  
Tolerance mm :  $\pm$  0.05

---

Aneroid pressure  
hPa : 350  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  4.5

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 60.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  19.0

---

#### LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 6.20  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm3/1000 strokes : + 3.0  
Check tolerance  
cm3/1000S. : + 6.0  
Spreed  
Tolerance  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 10.0

---

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.09.93  
Test oil : ISO 4113  
Combination No. : 0 402 646 924X  
Injection pump  
Pump designation : PE6P120A320LS7837  
: -10  
EP type number : 0 412 626 855  
Governor  
Governor design. : RQ300/950PA971-3  
Governor no. : 0 421 801 557

Cust. part No. : 0200743202

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM401 LA  
Power kW : 250.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 10.0  
Test nozzle holder  
assembly : 1 688 901 105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

M16

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  


---

 Spread  


---

 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  


---

  
 Rated speed rpm : 300  
  
 Rack travel in mm : 5.90  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 19.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1010  
 guide sleeve  
 travel mm : 6.68  
 Tolerance mm : + 0.10  
  
 Rated speed rpm : 300  
 guide sleeve  
 travel mm : 2.12  
 Tolerance mm : + 0.10  
  
 Rated speed rpm : 950  
 guide sleeve  
 travel mm : 6.35  
 Tolerance mm : + 0.10  
  
 Rated speed rpm : 401  
 guide sleeve  
 travel mm : 4.49  
 Tolerance mm : + 0.10  
  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 6.00  
 Tolerance mm : + 0.10

Rated speed rpm : 1160  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever  
 position degree : 109  
 Rated speed rpm : 600  
  
 Rack travel in mm : 20.00  
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 245.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
 position degree : 98.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 14.05  
 Rated speed rpm : 998  
 Tolerance 1/min : + 8

rack travel mm : 4.00  
 Rated speed rpm : 1095  
 Tolerance 1/min : + 15

rack travel mm : 0.75  
 Tolerance mm : + 0.75  
 Rated speed rpm : 1200

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 200  
CRT mm min. : > 8.20

Testing:

Rated speed rpm : 300  
rack travel mm : 5.90  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : ± 20

#### TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 15.05  
Tolerance mm : ± 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 600  
Pressure hPa : 1200  
rack travel mm : 15.05  
Tolerance mm : ± 0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 9.05  
Tolerance mm : ± 0.15

##### MEASUREMENT

Rated speed rpm : 600  
Pressure hPa : 150  
rack travel mm : 9.70  
Tolerance mm : ± 0.10

Pressure hPa : 550  
rack travel mm : 13.45  
Tolerance mm : ± 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 950  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : 550  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 204.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 9.10  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 5.90  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 10.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.09.93  
Test oil : ISO 4113

Combination No. : 0 402 646 925X

Injection pump  
Pump designation : PE6P120A320LS7837  
: -10  
EP type number : 0 412 626 855

Governor  
Governor design. : RQV300...950PA797  
: -20  
Governor no. : 0 421 813 893

Cust. part No. : 0200743302

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM441 LA  
Power KW : 250.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 10.0

Test nozzle holde  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5

M20

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Rated speed rpm : 300

Rack travel in mm : 5.90

Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1025

Rack travel in mm : 16.50  
Tolerance mm : + 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 124.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 14.05

Rated speed rpm : 995

Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1100

Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1200

---

LOW IDLE

control lever  
position degree : 86.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 7.70

Testing:

Rated speed rpm : 300  
rack travel mm : 5.90  
Tolerance mm : + 0.10

Rated speed rpm : 375

---

TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 15.05  
Tolerance mm : + 0.05

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 600  
Pressure hPa : 1200  
rack travel mm : 15.05  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 9.05  
Tolerance mm :  $\pm$  0.15

### MEASUREMENT

Rated speed rpm : 600  
Pressure hPa : 150  
rack travel mm : 9.70  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 550  
rack travel mm : 13.45  
Tolerance mm :  $\pm$  0.05

---

### Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  240

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  260

---

### FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 950  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

Aneroid pressure  
hPa : 550  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 204.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 260.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

### LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 5.90  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.09.93  
Test oil : ISO 4113  
  
Combination No. : 0 402 646 926X  
  
Injection pump  
Pump designation : PE6P120A320LS7834  
: -10  
EP type number : 0 412 626 853  
  
Governor  
Governor design. : RQV300...950PA797  
: -19  
Governor no. : 0 421 813 901

Cust. part No. : 0180740502

Customer spec. information  
Customer : MB-NFZ  
Motor : OM401 LA  
Power KW : 230.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. L/h : 110  
Tolerance L/h : ± 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5

M24

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Del. quantity  
cm<sup>3</sup>/1000 strokes : 241.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.60

Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1020

Rack travel in mm : 16.50  
Tolerance mm : + 1.30

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 241.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever  
position degree : 122.0  
tolerance degree : + 4.0

RATED SPEED  
rack travel mm : 14.00  
Rated speed rpm : 995  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1085  
Tolerance 1/min : + 15

rack travel mm : 0.70  
Tolerance mm : + 0.70  
Rated speed rpm : 1200

#### LOW IDLE

control lever  
position degree : 86.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.50

Testing:

Rated speed rpm : 300  
rack travel mm : 6.60  
Tolerance mm : + 0.10

Rated speed rpm : 400

#### TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 15.00  
Tolerance mm : + 0.10

Rated speed rpm : 800  
rack travel mm : 15.30  
Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 550  
Pressure hPa : 1200  
rack travel mm : 15.30  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.25  
Tolerance mm :  $\pm$  0.15

MEASUREMENT

Rated speed rpm : 550  
Pressure hPa : 550  
rack travel mm : 12.90  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 250  
rack travel mm : 10.90  
Tolerance mm :  $\pm$  0.10

---

Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  240

Check  
speed 1/min :  $>$  30  
Check  
speed 1/min :  $<$  260

---

FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 237.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

rack travel mm : 15.30  
Tolerance mm :  $\pm$  0.10

---

Aneroid pressure  
hPa : 550  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 190.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 215.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 6.60  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed

Tolerance  
ca3/1000 strokes : 6.0  
Check tolerance  
ca3/1000s. : 10.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.09.93  
Test oil : ISO 4113

Combination No. : 0 402 646 929X

Injection pump  
Pump designation : PE6P120A320LS7834  
: -10  
EP type number : 0 412 626 853

Governor  
Governor design. : RQV300...1050PA797  
: -25  
Governor no. : 0 421 813 924

Cust. part No. : 0200744102

Customer spec. information  
Customer : MB-NFZ  
Motor : OM401 LA  
Power KW : 230.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5

M28

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Del. quantity  
cm<sup>3</sup>/1000 strokes : 241.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.60

Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1130

Rack travel in mm : 13.90  
Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 241.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread

NO1

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 124.0  
tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 14.00  
Rated speed rpm : 1095  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1185  
Tolerance 1/min : + 15

rack travel mm : 0.70  
Tolerance mm : + 0.70  
Rated speed rpm : 1300

##### LOW IDLE

control lever  
position degree : 89.5  
tolerance degree : + 2.5

Setting point w/out bumper spring

Rated speed rpm : 200  
CRT mm min. : > 8.70

##### Testing:

Rated speed rpm : 300  
rack travel mm : 6.60  
Tolerance mm : + 0.10

Rated speed rpm : 400

##### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 15.00  
Tolerance mm : + 0.10

Rated speed rpm : 800  
rack travel mm : 15.30  
Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 550  
Pressure hPa : 1200  
rack travel mm : 15.30  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.25  
Tolerance mm :  $\pm$  0.15

MEASUREMENT

Rated speed rpm : 550  
  
Pressure hPa : 550  
rack travel mm : 12.90  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 250  
rack travel mm : 10.90  
Tolerance mm :  $\pm$  0.10

---

Start interlock

Rated speed rpm : > 100  
Rated speed rpm : < 240

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 260

---

FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 235.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

rack travel mm : 15.30  
Tolerance mm :  $\pm$  0.10

---

Aneroid pressure  
hPa : 550  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 190.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 215.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

LOW IDLE

Rated speed rpm : 300  
  
Rack travel in mm : 6.60  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.10.93  
Test oil : ISO 4113

Combination No. : 0 402 646 931X

Injection pump  
Pump designation : PE6P120A320LS7837  
: -10  
EP type number : 0 412 626 855

Governor  
Governor design. : RQV300...1050PA797  
: -24  
Governor no. : 0 421 813 911

Cust. part No. : 0200748302

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM441 LA  
Power KW : 250.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5

N04

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 15.05  
Tolerance mm : ± 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	: 245.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Speed	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

Rated speed rpm	: 300
Rack travel in mm	: 5.90
Tolerance mm	: ± 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 19.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
Speed	
Tolerance cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance cm <sup>3</sup> /1000S.	: 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1100
Rack travel in mm	: 16.50
Tolerance mm	: ± 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 600
Aneroid pressure hPa	: 1200
Del. quantity cm <sup>3</sup> /1000 strokes	: 245.0

N05

Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Speed	
Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

##### CONTROL LEVER

control lever position degree	: 122.0
tolerance degree	: ± 4.0

##### RATED SPEED

rack travel mm	: 13.90
Rated speed rpm	: 1098
Tolerance 1/min	: ± 8

rack travel mm	: 4.00
Rated speed rpm	: 1180
Tolerance 1/min	: ± 15

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1300

##### LOW IDLE

control lever position degree	: 85.0
tolerance degree	: ± 4.0

##### Setting point w/out bumper spring

Rated speed rpm	: 200
CRT mm min.	: > 7.70

##### Testing:

Rated speed rpm	: 300
rack travel mm	: 5.90
Tolerance mm	: ± 0.10

Rated speed rpm	: 425
-----------------	-------

##### TORQUE CONTROL

Rated speed rpm	: 600
rack travel mm	: 15.05
Tolerance mm	: ± 0.05

Rated speed rpm : 1050  
 rack travel mm : 14.90  
 Tolerance mm :  $\pm$  0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 400  
 Pressure hPa : 1200  
 rack travel mm : 15.05  
 Tolerance mm :  $\pm$  0.05

Rated speed rpm : 400  
 Pressure hPa : -  
 rack travel mm : 9.05  
 Tolerance mm :  $\pm$  0.15

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500  
 rack travel mm : 9.05  
 Tolerance mm :  $\pm$  0.15

Rated speed rpm : 400

Pressure hPa : 550  
 rack travel mm : 13.45  
 Tolerance mm :  $\pm$  0.05

Pressure hPa : 150  
 rack travel mm : 9.70  
 Tolerance mm :  $\pm$  0.10

##### Start interlock

Rated speed rpm :  $>$  100  
 Rated speed rpm :  $<$  220

Check  
 speed 1/min :  $>$  80  
 Check  
 speed 1/min :  $<$  240

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 1200  
 Rated speed rpm : 1050  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 236.0

NO6

Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. :  $\pm$  5.0

Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 12.0

Aneroid pressure  
 hPa : 550  
 Rated speed rpm : 400  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 204.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
 Check tolerance  
 cm<sup>3</sup>/1000s. :  $\pm$  4.5

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 133.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. :  $\pm$  4.0  
 Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 12.0

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 230.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. :  $\pm$  14.0

##### LOW IDLE

Rated speed rpm : 300  
 Rack travel in mm : 5.90  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.11.93

Test oil : ISO 4113

Combination No. : 0 402 646 939X

## Injection pump

Pump designation : PE6P120A320LS7836  
: -10

EP type number : 0 412 626 854

## Governor

Governor design. : RQV300...950PA797  
: -31

Governor no. : 0 421 813 922

Cust. part No. : 0200742302

## Customer-spec. information

Customer : MB-NFZ

Motor : OM401 LA

Power KW : 200.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

## Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

## Overflow quantity

min. l/h : 110

Tolerance l/h : ± 10.0

## Test nozzle holder assembly

: 1 688 901 105

## Opening pressure

bar : 208.5

NO8

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

## REMARKS

## (A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 5.55

Tolerance mm : ± 0.05

Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50

Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.75

## Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 13.20

Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 204.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spread

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Rated speed rpm : 300

Rack travel in mm : 5.60  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1009  
guide sleeve  
travel mm : 8.54  
Tolerance mm : ± 0.20

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.29  
Tolerance mm : ± 0.15

Rated speed rpm : 1570  
guide sleeve  
travel mm : 24.56  
Tolerance mm : ± 0.25

Rated speed rpm : 567

guide sleeve  
travel mm : 4.66  
Tolerance mm : ± 0.25

Rated speed rpm : 617  
guide sleeve  
travel mm : 5.23  
Tolerance mm : ± 0.25

Rated speed rpm : 780  
guide sleeve  
travel mm : 6.31  
Tolerance mm : ± 0.25

Rated speed rpm : 1092  
guide sleeve  
travel mm : 10.00  
Tolerance mm : ± 0.25

Rated speed rpm : 1190  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

---

##### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1020

Rack travel in mm : 16.50  
Tolerance mm : ± 1.30

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950  
Aneroid pressure  
hPa : 1400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 204.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

##### CONTROL LEVER

control lever  
position degree : 122.0  
tolerance degree : ± 4.0

#### RATED SPEED

rack travel mm : 12.20  
Rated speed rpm : 995  
Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
Rated speed rpm : 1090  
Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1200

---

#### LOW IDLE

control lever  
position degree : 86.0  
tolerance degree :  $\pm$  4.0

#### Setting point w/out bumper spring

Rated speed rpm : 200  
CRT mm min. :  $>$  7.40

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.60  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 375

---

#### TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 13.20  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 13.20  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 600  
rack travel mm : 13.20  
Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400

N10

Pressure hPa : 1400  
rack travel mm : 13.20  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 400  
Pressure hPa : -  
rack travel mm : 10.45  
Tolerance mm :  $\pm$  0.15

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.45  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 400

Pressure hPa : 350  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 200  
Tolerance mm :  $\pm$  0.10

---

#### Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  240

Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  260

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1400  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 204.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

rack travel mm : 13.20  
Tolerance mm :  $\pm$  0.05

---

Aneroid pressure  
hPa : 350  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

#### LOW IDLE

Rated speed rpm : 300  
Rack travel in mm : 5.60  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.09.93  
Test oil : ISO 4113  
  
Combination No. : 0 402 646 942X  
  
Injection pump  
Pump designation : PE6P120A320LS7837  
: -10  
EP type number : 0 412 626 855  
  
Governor  
Governor design. : RQ300/1050PA993  
Governor no. : 0 421 801 581

Cust. part No. : 0200747102

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM441 LA  
Power KW : 250.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Rated speed rpm : 300

Rack travel in mm : 5.90

Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : 109  
Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : + 0.80

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

N13

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 99.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 13.90

Rated speed rpm : 1098

Tolerance 1/min : + 8

rack travel mm : 4.00

Rated speed rpm : 1185

Tolerance 1/min : + 15

rack travel mm : 0.75

Tolerance mm : + 0.75

Rated speed rpm : 1300

---

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.10

Testing:

Rated speed rpm : 300

rack travel mm : 5.90

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 400

Tolerance 1/min : + 20

---

TORQUE CONTROL

Rated speed rpm : 1050

rack travel mm : 14.90

Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1200  
rack travel mm : 15.05  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 9.05  
Tolerance mm :  $\pm$  0.15

MEASUREMENT

Rated speed rpm : 600  
  
Pressure hPa : 150  
rack travel mm : 9.70  
Tolerance mm :  $\pm$  0.10  
  
Pressure hPa : 550  
rack travel mm : 13.45  
Tolerance mm :  $\pm$  0.05

---

Start interlock

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  220  
  
Check  
speed 1/min :  $>$  80  
Check  
speed 1/min :  $<$  240

---

FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 236.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

Aneroid pressure  
hPa : 550  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 204.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

LOW IDLE

Rated speed rpm : 300  
  
Rack travel in mm : 5.90  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.09.93  
Test oil : ISO 4113

Combination No. : 0 402 646 950X

Injection pump  
Pump designation : PE6P120A320LS7837  
: -10  
EP type number : 0 412 626 855

Governor  
Governor design. : RQ300/950PA993-2  
Governor no. : 0 421 801 590

Cust. part No. : 0210747902

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM441 LA  
Power KW : 250.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

N16

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Rated speed rpm : 300

Rack travel in mm : 5.90

Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : 109  
Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : + 0.80

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 102.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 14.05

Rated speed rpm : 998

Tolerance 1/min : + 8

rack travel mm : 4.00

Rated speed rpm : 1080

Tolerance 1/min : + 15

rack travel mm : 0.75

Tolerance mm : + 0.75

Rated speed rpm : 1200

---

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.30

Testing:

Rated speed rpm : 300

rack travel mm : 5.90

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 400

Tolerance 1/min : + 20

---

TORQUE CONTROL

Rated speed rpm : 950

rack travel mm : 15.05

Tolerance mm : + 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1200  
rack travel mm : 15.05  
Tolerance mm : ± 0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 9.05  
Tolerance mm : ± 0.15

MEASUREMENT

Rated speed rpm : 600  
  
Pressure hPa : 150  
rack travel mm : 9.70  
Tolerance mm : ± 0.10

Pressure hPa : 550  
rack travel mm : 13.45  
Tolerance mm : ± 0.05

---

Start interlock

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

---

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 950  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

Aneroid pressure  
hPa : 550  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 204.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

---

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 250.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 300  
  
Rack travel in mm : 5.90  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet



# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.11.93  
Test oil : ISO 4113  
  
Combination No. : 0 402 646 952X  
  
Injection pump  
Pump designation : PE6P120A320LS7836  
: -10  
EP type number : 0 412 626 854  
  
Governor  
Governor design. : RQ300/1050PA972-8  
Governor no. : 0 421 801 626

Cust. part No. : 0200740902

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM401 LA  
Power kW : 180.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

N20

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.70  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 183.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.60  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1108  
guide sleeve  
travel mm : 6.71  
Tolerance mm : ± 0.10

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.70  
Tolerance mm : ± 0.10

Rated speed rpm : 1050  
guide sleeve  
travel mm : 6.35  
Tolerance mm : ± 0.10

Rated speed rpm : 793  
guide sleeve  
travel mm : 6.09

Tolerance mm : ± 0.10

Rated speed rpm : 396  
guide sleeve  
travel mm : 3.90  
Tolerance mm : ± 0.10

Rated speed rpm : 510  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1270  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

Rated speed rpm : 877  
guide sleeve  
travel mm : 6.26  
Tolerance mm : ± 0.10

##### GUIDE SLEEVE POSITION

control lever  
position degree : 109  
Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : 1400

Del. quantity  
cm<sup>3</sup>/1000 strokes : 183.5  
Tolerance

cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 96.0  
tolerance degree : ± 4.0

##### RATED SPEED

rack travel mm : 11.70  
Rated speed rpm : 1098  
Tolerance 1/min : + 8

rack travel mm : 4.00  
Rated speed rpm : 1180  
Tolerance 1/min : + 15

rack travel mm : 0.75  
Tolerance mm : + 0.75  
Rated speed rpm : 1300

---

#### LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200  
CRT mm min. : > 7.40

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.60  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 390  
Tolerance 1/min : + 20

---

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 12.70  
Tolerance mm : + 0.05

Rated speed rpm : 800  
rack travel mm : 12.70  
Tolerance mm : + 0.05

Rated speed rpm : 600  
rack travel mm : 12.70  
Tolerance mm : + 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400

N22

Pressure hPa : 1400  
rack travel mm : 12.70  
Tolerance mm : + 0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.75  
Tolerance mm : + 0.15

#### MEASUREMENT

Rated speed rpm : 400  
Pressure hPa : 200  
Tolerance mm : + 0.05

Pressure hPa : -  
rack travel mm : 10.75  
Tolerance mm : + 0.15

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1400  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 188.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

rack travel mm : 12.70  
Tolerance mm : + 0.05

Aneroid pressure  
hPa : 200  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 119.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000s. : + 4.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.50  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 65.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 19.0

---

#### LOW IDLE

Rated speed rpm : 300  
  
Rack travel in mm : 5.60  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.11.93  
Test oil : ISO 4113  
  
Combination No. : 0 402 646 953X  
  
Injection pump  
Pump designation : PE6P120A320LS7836  
: -10  
EP type number : 0 412 626 854  
  
Governor  
Governor design. : RQ300/950PA971-8  
Governor no. : 0 421 801 625

Cust. part No. : 0200742002

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM401 LA  
Power KW : 180.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 417 413 025  
  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
  
Overflow quantity  
min. l/h : 110  
Tolerance l/h : ± 10.0  
  
Test nozzle holde  
assembly : 1 688 901 105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

N24

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 12.70  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 188.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.60  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

#### GUIDE SLEEVE POSITION

control lever  
position degree : 109  
Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950  
Aneroid pressure  
hPa : 1400

Del. quantity  
cm<sup>3</sup>/1000 strokes : 188.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever  
position degree : 96.0  
tolerance degree : ± 4.0

#### RATED SPEED

rack travel mm : 11.70  
Rated speed rpm : 998  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1080  
Tolerance 1/min : ± 15

rack travel mm : 0.75  
Tolerance mm : ± 0.75  
Rated speed rpm : 1100

#### LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 7.40

Testing:

Rated speed rpm : 300  
rack travel mm : 5.60  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 390  
Tolerance 1/min : ± 20

#### TORQUE CONTROL

Rated speed rpm : 950

rack travel mm : 12.70  
Tolerance mm : + 0.05

Rated speed rpm : 800  
rack travel mm : 12.70  
Tolerance mm : + 0.05

Rated speed rpm : 600  
rack travel mm : 12.70  
Tolerance mm : + 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 400  
Pressure hPa : 1400  
rack travel mm : 12.70  
Tolerance mm : + 0.05

Rated speed rpm : 500  
Pressure hPa : -  
rack travel mm : 10.75  
Tolerance mm : + 0.15

##### MEASUREMENT

Rated speed rpm : 400

Pressure hPa : 200  
Tolerance mm : + 0.05

Pressure hPa : -  
rack travel mm : 10.75  
Tolerance mm : + 0.15

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1400  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 188.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

rack travel mm : 12.70  
Tolerance mm : + 0.05

Aneroid pressure  
hPa : 200  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 119.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.45  
Tolerance mm : + 0.15

#### LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.60  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

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End of test specification sheet